

THE NEW TECH UNION

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THE NEW TECH UNION

That the Corporation of the Institute is directing its attention with earnestness to the social condition of undergraduates is shown by the appointment, last year, of a Corporation Committee on Student Welfare, and this movement has had immediate fruition in the establishing of an almost luxurious social centre for the students at the very doors of their lecture-rooms and laboratories.

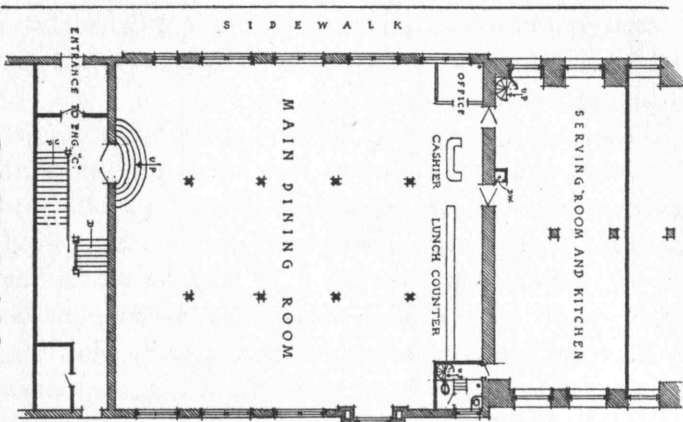
The new Tech Union is practically a modern club, embodying all the comforts and conveniences that are really worth while, having no restrictions that are not necessary in every club, and where the Tech student, rich or poor, may feel that he is really at home. Not only has the Corporation, generously assisted by friends of the Institute, afforded facilities which will amply suffice until the Walker Memorial can be built, but it has recognized the importance of placing responsibility on students, so far as this is feasible, and has appointed a governing committee of the Union, consisting of five undergraduates and four older men, so that the new Technology Union is run for the students and by the students, and its general success rests with them. The experiment is interesting because of the possibilities of further expansion in other directions if the results show that executive traits can be developed during student years.

The new Tech Union is located on Trinity Place, between the Pierce Building and Engineering C, occupying a space sixty feet long by sixty feet wide. The social room on the

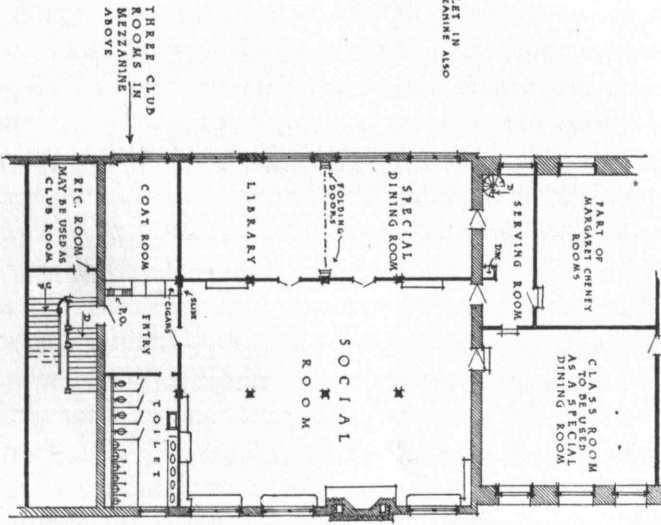
second floor is a commodious room, high-studded and airy, and at the same time very homelike and comfortable. The principal feature, as one enters the social room, is a hospitable fireplace, capable of taking in five-foot logs, and the welcoming suggestion of upholstered couches and window-seats and comfortable easy-chairs, set off by harmonizing colors of walls, rugs, and draperies. As will be seen from the plan, this room occupies about two-thirds of the area of the second floor, outside the coat-room, entry and toilet. The other third of the area has been made into two rooms,—one of them a special dining-room, and the other a library, with folding doors between, so that they can be thrown into one large room capable of seating one hundred and twenty-five. Inasmuch, however, as there is a large classroom in the Pierce Building, to which connection has been made with the Union, which can be used for a private dining-room, it is thought that the encroachments on the library will be very few, and in this room, therefore, have been placed a large round table and chairs, the gift of the class of '08.

On the ceiling of the social room hang the various class banners of cardinal and gray, which are used on Tech nights at the Pops, and on the walls are large pictures of the various Tech shows. On the reading table in the library are newspapers, magazines and other periodicals of interest to the students, and in the bookcases on the walls is the library which was given by the late Frank H. Cilley ('89) before his death. Connected with the private dining-room, and also with the recitation-room which will be used as a dining-room, is a serving-room, which has connection with the kitchen by a dumb waiter as well as a spiral staircase.

One enters the social room through an ample lobby, which has on one side a coat-room and on the other the lavatories. On the coat-room counter are the post-office boxes which



FIRST FLOOR



SECOND FLOOR

have heretofore been located in Rogers Building, also a counter for cigars and tobacco. A public telephone is also located in the lobby. The social room will be open from eight in the morning until eleven o'clock at night every day in the week.

When the Union was first discussed, it was hoped that the funds would be sufficient to build a three-story edifice, the third story to be devoted to offices where the student activities could be grouped together and where would be located alumni headquarters. It may be somewhat surprising to the older alumni, to know that the amount handled by these student activities runs considerably above \$25,000 a year. This involves a large amount of book-keeping which has formerly been done by the students, necessarily in a very imperfect way. Arrangements were made last year by which some of this work was done at alumni headquarters, and it is now proposed to offer such facilities that all of the book-keeping and filing of this kind will be taken care of in this way. This will relieve many students of work which has taken a large part of their time at the expense of their studies, and which, even at the best, has not been done in a business-like manner.

It was found, however, that a three-story building could not be built for the amount appropriated, so that the alumni headquarters will remain in Rogers Building, the student activities occupying the three small offices on the mezzanine floor over the coat-room and toilet, and another somewhat larger office in the hall of Engineering C. Another small office in the hall will probably be available very soon. It will be very inconvenient for some of the student organizations to be so far removed from alumni headquarters, but it is hoped that in the near future some arrangement can be made to have this office brought nearer to the Union.

The interest which the students are exhibiting in the Union, which will be opened a few days before the REVIEW goes to press, indicates that it will not only serve its purpose, but will also be an inspiration to them so to organize their student activities that this outside work shall not menace the standing of the men connected with them, but shall be an important part of their education.

The lunch-room, on the first floor of the Union, is a great departure from anything that we have ever known at Technology. The evolution from Jones's restaurant in the old drill shed, where Walker now stands, to the new lunch-room, is very great indeed. The room is the full size of the building, sixty feet by sixty feet. The kitchen, which is located in Pierce, is as large as those in some of Boston's first-class hotels, and is provided with modern apparatus for cooking food and keeping it in proper condition to be served. The side walls of the buildings have large window openings, and the artificial lighting is not only ample, but brilliant. There will be several pictures in this room, and also the large Tech banner, which is used at Technology reunions. Hanging from every bay is a basket filled with vines and flowers, and about the posts are blooming plants, which are changed each month by the florist who has this contract.

It is expected that, when the lunch-room opens, it will be called upon to feed about one thousand a day. As the rush is greatest at noon, preparations have been made to give the most expeditious service. Students seating themselves at tables can order of the waiters, who will serve them from the kitchen, or they can go to the lunch counter, where food will be served by an attendant as ordered, to be eaten at one of the near-by tables. The two types of service are entirely distinct, the special dishes at the lunch counter

not being the same as those served from the kitchen. The scheme of making payment is very simple, and eliminates delay. Students who are working their way through the Institute are employed as waiters. The "waiter service" hours for breakfast are 7.30 to 8.45 A.M.; lunch, from 12 M. to 1.45 P.M.; dinner, from 5.30 to 7 o'clock. By this it is to be understood that during these hours will be served special dishes suitable to the meal, but the bill of fare contains as great variety as that of a first-class hotel in a large city, and special orders will be cooked and served at any time during the day. The lunch counter is open from 8.45 in the morning until 5.30 at night. At this counter can be had all forms of dairy dishes, pastry, fruit, coffee, milk, ice-cream, and three special entrées each day. The steward, T. J. Gibney, has been steward of the Hotel Pilgrim, Plymouth, during the past season, and the chef is William McIver, who has for several seasons been chef on the Floating Hospital, and who had charge of the Tech Union lunch last year. The price charged for food are extremely reasonable, although it is of the very best quality, and generous amounts are served. Books of meal tickets, good for \$3.30 worth of food, are sold for \$3, and books good for \$1.10 worth are sold for \$1, and the aim has been so to arrange the menu that a young man obliged to economize can get good substantial food, and enough of it, for about \$3.50 a week. The hours for meals on Sunday are from 8.30 to 10 for breakfast, dinner at 2, and cold supper from 6 to 7. The Sunday dinner will be served as nearly like a family table as possible. All the vegetables, with bread and butter, will be on the table, and it is hoped that the meat can be carved on the table by one of the students. If it is found feasible, this table d'hôte dinner will be added to the *à la carte* service on week-days.

SOME RECENT INVESTIGATIONS IN THE
CHEMICAL DEPARTMENT

The Chemical Department of the Institute is singularly fortunate in its relations to scientific research and investigation. For a number of years there has been associated with it the Research Laboratory of Physical Chemistry, under the direction of Professor A. A. Noyes, which, while independent of the departmental organization, has co-operated with the Department in every way possible for the encouragement and promotion of the spirit of research among both students and instructing staff, the inevitable result being an increased incentive for both to keep themselves in touch with the growth and progress of the science. The work of the corps of investigators in this laboratory is well known to all whose business it is to follow the advances in the field of physical and inorganic chemistry.

A little more than two years ago steps were taken looking toward the establishment of a Research Laboratory of Applied Chemistry, which should deal with questions relating to the technical applications of chemical science. It has, fortunately, been recently possible to place this work upon a definite footing, and under the direction of Professor W. H. Walker this Research Laboratory will begin its official existence as a branch of the Department, with the opening of the present Institute year. This and the brief accounts of the work of the past two years are doubtless already familiar to the readers of the REVIEW. There is every reason to expect that this laboratory, like that of Physical Chemistry, will, through its investigation work, its advanced courses and seminars, and the attractive oppor-

tunities for research which it affords to the junior members of the instructing staff and to advanced students, add to the incentives already existing toward thoughtful and progressive activity on the part of all within its influence. It should also add to the prestige of the Institute, and bring it into closer association with the technical interests of the country.

It is not, however, the primary purpose of this paper to deal with the work of these laboratories, which have spoken and will speak for themselves, but rather to indicate, through a few examples chosen from many, the nature of some investigations carried on outside of these formally organized laboratories. Among the most important of these is the work of Professor S. P. Mulliken, who has for several years held an assistant professorship in organic chemical research, on a systematic procedure for the identification of organic compounds. The procedure employed in inorganic qualitative analysis for the identification of the metallic elements and the common inorganic acids is familiar to all who have pursued the study of chemistry beyond the elementary stages. The carbon compounds, however, do not lend themselves readily to such a simple system because of the comparative complexity of their reactions, their enormous numbers and varied characters, and the difficulties involved in establishing conditions which permit of the study of the characteristic behavior of any one compound, or even group of compounds, in the presence of the others. It is, nevertheless, a matter of importance that such compounds should be identified as easily as possible in the interests of both the scientific worker and the practising analytical or technical chemist, and it is to this formidable problem that Dr. Mulliken has devoted a large part of his energies and thought for a number of years. The first volume of a series which

he hopes to prepare was published in 1904, under the title "A Method for the Identification of Pure Organic Compounds." Since 1906 he has confined his work almost entirely to the preparation of a systematic analytical procedure for the identification of the modern commercial dyestuffs, as there seems to be at the present time no complete and trustworthy procedure extant which can be applied to the bewildering array of modern colors. A considerable amount of the work involved has been undertaken by various students as the subject of their undergraduate theses, a considerable part has been completed by private assistants, and much has been done through the almost uninterrupted labors of Dr. Mulliken himself. The results of this work will, it is hoped, be published in 1909 as Volume 3 of Dr. Mulliken's "Analytical Method" under the probable title "A Method for the Identification of the Synthetic and Natural Dyestuffs." It can hardly be questioned that this will prove to be of such permanent value to all concerned with the study and reproduction of dyestuffs, or of their color effects on textiles or other fabrics, as to justify the thoughtful, thorough, and time-consuming labor which its preparation involves.

Three years ago the Course in Chemical Engineering was thoroughly revised with a view to meeting the changed conditions and requirements now obtaining in this branch of engineering work. The broad, fundamental training in chemistry which the members of this course now obtain has made it possible to take up as subjects for investigation as undergraduate theses, problems which are typical of those existing in every chemical industry, and which require for their attack a comprehensive knowledge of both chemistry and mechanical engineering. Among the theses of this general type carried on in the Laboratory of Indus-

trial Chemistry during the last term, under the direction of Dr. W. H. Walker, may be noted the study of the soda cycle at the mill of the Champion International Paper Company at Lawrence, Mass., made by Eleazer Myers and Chesney H. Criswell of the course in Chemical Engineering.

The most important method of reducing the wood of deciduous trees, such as poplar, beech, etc., to the form of the pure cellulose fibre used in paper-making, is to boil the wood, cut into small chips, with a strong caustic soda solution in large iron digesters under a high steam pressure. The caustic of the liquor used for the purpose is purchased in the form of sodium carbonate (commercial soda ash), and is changed into the desired caustic soda by treatment with milk of lime. In the digester the caustic liquor attacks the wood, dissolving away the resins, lignins, and other encrusting materials, leaving the cellulose fibre free, being itself changed into sodium compounds of complex organic acids. When separated from the cellulose fibre, the "black liquor" is concentrated and reduced to an ash in a rotary calcining furnace, the sodium being changed back to its original form of carbonate. It is then dissolved, causticized, and used in the digester. Theoretically, therefore, there should be no loss of soda in the cycle, as there should be delivered by the rotaries as carbonate all the soda that was originally purchased and used. In practice, however, there is a constant loss of soda during the cycle of from 20 to 25 per cent. of the amount in use. The investigation in question consisted, first, in designing and constructing apparatus by which the exact amount of soda in its various forms could be determined in each step of the process; second, in measuring the loss of soda incident to each operation; and, third, in recommending such changes in equipment and practice as would reduce the loss in each part

of the cycle to a minimum. The results from the standpoint of an undergraduate thesis representing about three hundred hours of work were very satisfactory. That they were not without practical value may be seen from the following quotation from a letter of the general manager of the paper mill: "We have already commenced to take action in line with the suggestion resulting from this work, and I think we are feeling enough benefit to fully repay us any slight inconvenience it may have been to us to have them [the students] here."

A second thesis investigation which yielded interesting results was that of Messrs. H. E. Batsford and A. W. Clark on the "Influence of Temperature on Yield in the Destructive Distillation of Wood." The recent awakening which our entire country has experienced as to the necessity of more carefully utilizing our natural resources has rendered timely an investigation looking towards increasing the yield of valuable products obtained by the destructive distillation of wood. When wood is heated in the absence of air, it breaks up into a large number of compounds, the more important of which are combustible gases of varying composition, methyl or wood alcohol, acetic acid, wood-tar, and charcoal. As might be expected, the proportions of the various products vary with different kinds of wood; but to an even greater extent they depend upon the temperature to which the wood is heated and the rapidity with which the heat is applied. For the purpose of the investigation a distilling unit of the wood-distilling plant of the Avery Chemical Company at Lowell, Mass., was placed at the disposal of the students, and fitted with the apparatus necessary for measuring and controlling the temperature within the distillation retort, also for collecting and measuring the gases and for collecting and sampling the

liquid products. A large number of experimental runs were made, and the results of the observations and the tabulated analyses clearly showed that a slow, even application of heat and a relatively low maximum temperature is essential to a large yield of commercial products.

Another investigation of interest to all who patronize railroads is that conducted by Mr. R. W. G. Wint, of the Course in Chemistry, under the direction of Professor Fay, in his thesis on the study of the causes of broken steel rails. He found that an unsuspected source of danger exists in the presence of manganese sulphide in rails. It has been commonly supposed that manganese sulphide is entirely harmless, but in this work it has been demonstrated beyond a doubt that it is the source of many cracks which ultimately lead to complete fracture. In a study of crescent-shaped fractures it was found that in nearly every case the macrostructure was fine, and the microstructure indicated excellent heat treatment. In all cases, however, manganese sulphide was present, rolled out in thin threads extending in the direction of rolling. Suspicions of the brittleness of this substance were confirmed by subjecting sections of the metal to strain, and in all cases cracks were first developed in the manganese sulphide areas, and these then extended into the steel itself. The reason for the existence of manganese sulphide in the form of elongated threads was found in the fact that its freezing-point is $1162^{\circ}\text{C}.$, which is about three hundred degrees below the temperature at which the rolling of rails begins. During this period the liquid sulphide is extended in the direction of rolling as the rolling proceeds. Below its freezing-point the sulphide is plastic, and even in this state it may also be elongated into threads with consequent danger to the life of the rail. These facts furnish an additional excellent argu-

ment in favor of lower rolling temperatures for rails than are often employed.

The presence of the relatively large amount of manganese sulphide found in some rails is accounted for by the desire of the manufacturer to increase his tonnage output by hastening the operations. The specific gravity of the sulphide is 3.966, while that of steel is 6.82, and, if sufficient time were given between the addition of ferromanganese and the teeming of the ingot, most of the sulphide would rise to the surface and disappear with the slag, and the metal would thus purify itself. The presence of manganese sulphide will explain many, if not all, of the crescent-shaped fractures. It will account for many rolling flaws, and, perhaps, for the split heads shown in many rails. This work, which is of great importance because of the thorough way in which the problem has been treated, will be continued with the hope of throwing additional light on a question involving not only public safety, but enormous commercial interests.

In the laboratory of food analysis considerable work has been done under the direction of Professor Woodman in the study of several important lines of food examination. The passage of the National Pure Food Act and the consequent greatly increased interest in all that pertains to food, has directed much attention toward the improvement of present methods of food analysis, both general and official. The fact that the results of chemical analysis will in many cases be brought into the courts necessitates a critical study of existing methods, and in not a few instances the development of new ones. Professor Woodman's position as associate referee on revision of the official methods, and direct connection with the practical enforcement of the pure food laws, has made it possible for the fourth-year

students in the food laboratory to undertake work which will be of immediate and practical importance in this line.

Among the problems which have been worked out may be mentioned a new method for the assay of commercial almond extract. The amount of almond oil in a pure extract is fixed by definite standard, but the methods for determining the amount present have been, for the most part, very unsatisfactory. The new method which has been developed for the examination of these extracts is accurate, rapid, and easy of execution. It can be applied also to the assay of almond oils and to pharmaceutical preparations of benzaldehyde. In connection with this work it was found possible to shorten and improve in many details the process for the preparation of specially pure alcohol, which will prove of considerable value in the examination of whiskies and lemon extracts.

Much work has also been done on coffee with special reference to the estimation of its tannin and alkaloid contents. There have appeared on the market in recent years several brands of "purified" or "refined" coffee, for which physiological virtue is claimed on the ground that they have been freed from the excess of tannin and caffeine. Accurate and rapid methods for the determination of these constituents are greatly in demand. The present methods are tedious to a degree, requiring several days in order to obtain even approximate values. It has been found possible through the work in the food laboratory to shorten some of these processes, the modified method, for instance, giving results in three-quarters of an hour that formerly required seventy-two hours, and results of greater accuracy, as well. New applications of volumetric methods for alkaloidal assay to the case of caffeine have brought about distinct improvement. In connection with the examination of coffee a

thorough revision of the present methods for the analysis of tea, cocoa, and chocolate, has been undertaken with the aid of the students in food analysis and other collaborators. A special study has already been made, as a part of this, of the methods for the simultaneous estimation of the sugars in milk chocolate.

Another question of importance in food work and of much chemical interest, since it is by chemical tests that the problem is to be solved, is that of the detection of artificial colors. Apart from the question whether or not these colors are injurious when used in foods, a danger which in the case of many of the coal-tar colors there is reason to believe is a positive one, their use is restricted under the provisions of the pure food laws for other reasons. These colors are often added for the purpose of simulating a higher grade article or for concealment of inferior or damaged conditions of the goods.

An example of the first use mentioned is the coloring of macaroni and other edible pastes with yellow coal-tar dyes to imitate the more valuable egg products. An example of the second application of colors is the coloring with caramel of artificial preparations of vanillin and coumarin, to imitate the true extract of vanilla. Both of those forms of coloring have been under investigation in the food laboratory with a view to devising methods for their detection, and with a considerable measure of success. The problem of detecting artificial color in macaroni is a peculiarly difficult one, and it is not as yet entirely solved, but considerable progress has been made, and it is hoped to be able to finish it. In this particular case the matter is complicated by the fact that various yellow vegetable colors, as annatto and saffron, are used, which are with difficulty distinguished from the color of egg-yellow and the lutein of wheat.

In the case of extract of vanilla a comparative study of a number of methods has shown the best procedure for the detection of caramel. The conclusions reached have been thoroughly tried out on a large number of commercial vanillas and on extracts of known purity.

Problems connected with the sanitary and commercial examination of water supplies have also been taken up by Mrs. E. H. Richards. Important among these has been a study of an adequate method of presentation of the subject of water analysis to our classes in the limited time available. The difficulties of presentation have been materially enhanced by the new questions which arise in connection with the increasing use of deep, driven wells as sources of commercial supply, and the unknown influence of these waters upon the life of conveying pipes, upon textiles and dyestuffs, and on the maintenance of boilers. The determination of the best use of available data, the most suitable means of illustrating the varieties of waters available in various localities and the precautions demanded in connection with each, and the extent of such a laboratory course of study have all been the object of careful study, from which helpful conclusions have already been reached.

The campaign against tuberculosis has given fresh impetus to the investigation of the ventilation of buildings and the quality and quantity of air which it is possible to furnish. The sanitary engineer and inspector has urgent need of portable apparatus for testing smaller variations in the composition of the air of buildings than was formerly needed, and this has been found to be a problem which is difficult of solution. The class in heating and ventilation has given considerable attention to these matters, and, as a result, in part of their work three types of apparatus have been pro-

posed for general use. These have already been described in the *Technology Quarterly*, and they will be further tested during the coming year.

These few examples of the investigations in the Department of Chemistry and Chemical Engineering have all been in progress during the last Institute year, with the exception of those of Dr. Mulliken. They have been selected because of their general interest, and no mention has been made of much equally important work of more abstractly scientific character, in organic, physical, and inorganic chemistry,—a description of which would involve too many technicalities. Nor has any reference been made to a large number of commercial problems which have been taken up by various members of the instructing staff in their private capacity as experts (since the Institute itself does no commercial work), which for obvious reasons cannot be made public. Indeed, there is hardly one of the members of the staff who has not had some definite chemical problem under investigation during the past year. An enumeration of these would be merely tiresome, and enough has, I think, been given to show that the members of the department are in close touch with the pressing problems of the day, and that through them our students are stimulated to active interest in the latest developments in their chosen science.

Free use has been made of the descriptions furnished by those in charge of the various investigations outlined above, and whatever interest the foregoing pages may possess is largely due to them.

H. P. TALBOT, '85.

TECHNOLOGY'S CLUB

A club that hopes not to die in early infancy must fix upon some definite qualification for membership which shall both unite its members upon a common interest and exclude those who are not likely to sustain that interest. Congeniality is the life of a club, and the successful clubs are those in which the selective process has been happily applied.

It is a fortunate circumstance that the Massachusetts Institute of Technology makes first selection of material for the Technology Club. We all know at first hand the rigors of that selection. To be sure, any man connected at some time with the Institute is eligible for membership, but no man who has not done creditable work in Tech, either as student or instructor, cares to identify himself with the Technology Club; and the single qualification of having done creditable work in Tech makes for a fundamental congeniality among members of the Technology Club which is not seriously disturbed by differences in individual tastes. Tech men think clearly, and talk as they think; they are not only men informed, but equipped to keep themselves informed; and he is a poor stick of a Tech man who does not use his equipment. There is enough unity of interest among Tech men in general scientific and technical work to promote most profitable intercourse, and enough divergence of individual interests to discourage shop talk. To the privilege of drawing its membership from this body of six thousand picked men the Technology Club owes, primarily, the success it has attained. Its steady growth from a handful of members twelve years ago to a present membership of

more than seven hundred has made for it an enduring place among Technology institutions.

The Technology Club aims not only to give its members a club-house with pleasant lounging-rooms, cuisine, billiards, sleeping-rooms, smoke talks, and good companionship; its broader object is to interest itself in Technology affairs and promote the welfare of the Institute. The club-house is the official home of THE TECHNOLOGY REVIEW. The Association of Class Secretaries, the Walker Club, the Instructors' Club, and other Institute organizations hold their meetings there. It entertains the guests of the Society of Arts, and many class dinners are held in its dining-room. The Club was a centre of activity for the raising of the Walker Memorial Fund and the Technology Fund, and freely lends itself to all such good causes in the interest of the Institute. It is the rendezvous of many who gather to discuss Institute affairs, and a large number of members of the faculty and corporation are on its list of members. A register is kept at the club-house for the benefit of all visiting Tech men, whether members or not, and they are cordially invited to register their permanent and temporary addresses for the benefit of their friends. The Club maintains intimate relations with all Technology organizations throughout the country. In short, the Technology Club aims to be Technology's Club,—a centre of activity for all who wish to maintain an appreciative, working interest in Institute affairs.

The Technology Club is in no sense a students' club, although it recognizes the expediency of having a live connection with the source of its future supply—the undergraduates—by admitting as members a limited number from the Senior Class, Juniors in their last half-year, and graduate students. The admission of these members of the student body does not signify that the club is assuming any of the

functions of the Tech Union or of the various student organizations, but rather that certain of the students have attained to a degree of wisdom and discretion which makes them welcome among the older Tech men. The mutual appreciation of this feature is attested by the fact that the contemplated undergraduate limit of sixty has been tacitly ignored by the Council, and ninety-four students are now enrolled as members. The Technology Club, however, holds strictly to its sphere of activity among Tech men who are beyond their student days, and a merger of the Club with any student organization would be as absurd as a merger of one of the research departments with first-year chemistry.

It has been frequently proposed that the membership of the Technology Club be limited. Six hundred was at one time suggested as the proper number. This does not seem to be in harmony with the main object of the Club. A fortunate change in house management, made a year ago, which has contributed to the recent marked increase in the Club's income, popularity, and a rise in membership to a point way beyond the proposed limit, has demonstrated the unwisdom of any limit. The Club should never be the exclusive club of a convenient number. To fulfil its mission, the Technology Club should need new members as long as there are Technology men who are not members.

The Technology Club cordially invites all Tech men to become members, and more especially it invites participation in its affairs. The Club has never been afflicted with officers so content with their own results that they have not eagerly sought intelligent advice and suggestions, though its best interests have been threatened at times by the well-intentioned efforts of members whose infrequent visits to the Club and meagre knowledge of its activities did not

qualify them as arbiters of its destiny. A man can do his work best by getting next to it.

In membership, in income, and in useful activity the Technology Club is now at the high-water mark of its history. To those who have worked for it, and stood by it through the years of its growth, this merely spells *opportunity* for more growth and greater usefulness,—opportunity for strong Tech men who have made their way in the world to turn some of their efforts to Technology's account, and make the Technology Club, in an always broadening sense, Technology's Club.

SETH K. HUMPHREY.

PROPOSED CHANGES IN ALUMNI ORGANIZATION

The last annual business meeting of the Alumni Association, held Jan. 10, 1908, at Hotel Brunswick, was called to order at 6.20 P.M. At 6.50 P.M. it adjourned. In the intervening thirty minutes the records of the previous meeting were approved, reports were read and accepted from six committees, and several votes were passed. This procedure was typical of recent practice.

The annual meeting presents no opportunity for general discussion. In effect, at least, it is discouraged, in order that the business may be completed before the appointed time for dinner. The attendance has scarcely increased during the last eight or ten years, while membership in the Association has practically doubled. To-day its business is transacted by less than two per cent. of its members, who are largely residents of Boston and vicinity. Up to 1905 attending members also elected all of the officers.

That the best interests of the Association cannot be conserved by present methods of conducting business must be evident. Experience indicates that conditions cannot be permanently bettered by holding the business meeting on a different date from the social gathering.

The time seems ripe, on the eve of another reunion, for such changes in the organization of the Alumni Association as shall provide more opportunity for deliberation on matters of policy and shall make the meetings more representative.

The solution of the problem appears to lie in the creation of a practical working body which shall meet with reasonable frequency and shall act for the Association. Such an organization, in which a fair proportion of the members is elected at large and the balance represents certain groups or organizations, seems to fulfil the conditions. A body so constituted would be directly answerable through its individual members to the organizations which they represent, and as a whole to the Association at large.

Believing in the advantages of such a form of organization, the Executive Committee outlined a plan which for several months past has been the subject of analysis and criticism at the hands of the Association of Class Secretaries and of a joint committee, including three members appointed by that organization. Profiting by this helpful but unofficial discussion, the Executive Committee, after making its own final revision, will soon present the same to the members of the Alumni Association for approval by letter ballot. This will, undoubtedly, be done in time to permit the changes to become operative at the beginning of next year.

The central feature of the proposed new form of organization is a council. As now planned, this would be composed of several recent ex-presidents, a specified number of members elected at large, and one representative from each graduate class and each approved local alumni organization. A president, two vice-presidents, a secretary, and a treasurer, elected by the Association, would be *ex-officio* members of the Council, and with four members elected by the Council would constitute the Executive Committee, which would act for both bodies. The elected officers would also serve as the officers of the Council. To the present powers and duties of the Executive Committee would be added those of approval for enrolment and representation of local alumni organizations, and of approval or veto of by-laws formulated by the Council.

Pending the selection of a representative by each organization, its secretary would be recognized as its representative. Upon request of a specified number of Association members the Council would be required to consider matters pertaining to the general welfare of the Association, to make recommendations thereon, and to poll the Association by letter ballot.

Under the provisions outlined above it is evident that the work of the Council would be largely deliberative; that the Executive Committee, a majority of whose members are elected by the Association, would be given specific powers; that there would be such diversity of representation as to give the Council a proper balance of permanency and change in membership; that distant members, though unable to attend, would have full rights and privileges, and

would be kept informed; and that, with reasonable frequency of meetings and the acquaintance of members with each other and the work, matters of large importance to the Association could be handled wisely and well.

Almost by force of circumstances the Association of Class Secretaries has usurped in part or in full many of the proper functions of the Alumni Association. Among them may be included the publication of THE TECHNOLOGY REVIEW, the organization of local Technology Clubs, the promotion of the last reunion, and the conduct of the Commencement Celebrations and the Pop Concerts. The results, although obtained by much duplication of effort, appear to have warranted such independence of action.

But it is now time that the Alumni Association should assume these and other functions which pertain to it. The new constitution will make this possible. The Council, an authoritative body, would be a worthy successor to the Association of Class Secretaries, a body without authority. The latter might still preserve its identity and devote itself to the work for which it was originally organized, being free on occasion to express its independent opinion upon matters pertaining to the Institute.

Already the necessary steps have been taken for transferring the publication of the REVIEW from the class secretaries and making it the official organ of the Alumni Association. It is proposed that its subscription price be raised to two dollars, and that the dues be increased to the same amount, but that the payment of dues shall entitle a member to receive the REVIEW without extra charge.

Such, in brief, are the essential features which will probably be embodied in the new constitution and by-laws. They are here outlined, though unofficially, in order that the alumni may be better prepared to act when they are formally presented.

STEAM TURBINE ENGINEERING

Instruction in Steam Turbine Engineering at the Institute has kept abreast of the development of the art ever since its important applications in manufacturing and transportation have been recognized, and within a year two things have been accomplished which have placed the work on a very satisfactory basis.

(1) Professor Peabody's "Thermodynamics of the Steam Engine" has been rewritten, and includes a chapter which places the computations for the steam turbine on the same plane as for all other heat engines. At the same time his Tables of the Properties of Steam have been recomputed, and there has been added a table of temperature and entropies which enables all the required problems to be solved with ease and precision. (2) There is now erected in the Engineering Laboratories of the Institute a 500 kilowatt Westinghouse-Parsons turbine, with absorption brake, condenser, and wet and dry air-pumps, and other facilities for testing.

In the installation of a turbine of such power the Institute has adhered to its established custom of making experiments on such a scale that results shall be of real value, and we shall soon have at hand such complete information as is now to be found only in the hands of turbine builders, and which they have consistently declined to give out.

Attention has already been directed in the REVIEW and the *Quarterly* to important tests which have been made by the Department of Naval Architecture on turbine steamers and that the department has a Denny-Johnson Torsion-meter which can conveniently be used for such work on any steamers that may be available.

In the days of wooden ships the distinction between the ship-carpenter and the engine-builder was sufficiently evident, but now the division of work between the ship-builder and the engineer is partly traditional and partly a matter of convenience. The naval architect is expected to determine the power required to drive the

ship, and the engine designer is expected to furnish an engine that will develop that power,—just as though either could work intelligently without knowing in advance what the other would do! When the limit of possibilities is approached, as in torpedo boats and turbine steamers, it is at once evident that one brain must control the whole problem. For this reason our students of naval architecture have always been given thorough instruction in marine engineering, and the option in Marine Engineering for Course II. has always dealt with the problems of power and speed of ships.

In the development of the course in naval architecture it has been found possible to so adjust the work in ship and engine design as to give proper attention to the application of steam turbines to ship propulsion, but it is neither possible nor desirable to increase the time given to the options in Mechanical Engineering. The proper course of action has appeared to be to introduce a new option in Steam Turbine Engineering parallel with the established options of that course. All students of that course will, as before, (though with better opportunity) be given such instruction in the elements of steam turbines as all engineers should have in order to understand those machines and apply them intelligently. A few of the men who may expect to take up work with turbine builders or who for any reason are interested in the subject will take up special instruction in turbines, including design of turbines for various purposes.

The new option in Steam Turbine Engineering will be in the hands of Professor Peabody, assisted by Mr. H. A. Everett (instructor in Marine Engineering) and by Mr. L. H. Sutton, of the class of 1908. The option thus starts off modestly with the addition to the teaching staff of one assistant; but this comes naturally from the fact that there is an economy of effort in placing the option in the hands of those who have had and will necessarily have control of the instruction in the application of the steam turbine to marine propulsion.

SUMMER SCHOOL OF INDUSTRIAL CHEMISTRY

The regular Biennial Summer School of Industrial Chemistry for the year 1908 was held June 10 to 27, and consisted of visits of inspection to manufacturing establishments in the neighborhood of New York and at various points in New Jersey and Pennsylvania, the trip extending as far as Pittsburg. As in previous years, our reception in nearly every case was very cordial, the fullest opportunity for observation and inquiry being afforded. In all, twenty-six plants were visited, in the following order: Standard Sugar Refinery, South Boston, Mass., where the numerous details incidental to the preparation of granulated sugar from the various grades of crude raw sugars were fully explained. At the Manhattan Rubber Company, Passaic, N.J., was seen the making of mechanical rubber goods, such as fire and garden hose, belting, packing, paper-mill rolls, mats, tiles, etc. An instructive talk upon the different kinds of crude rubber was given here by the chemist. Colgate & Co., Jersey City, N.J., showed the process of soap-making and recovery of glycerin from the spent lyes; also the making of toilet soaps, talcum and sachet powders, and toilet preparations. At the Tide Water Oil Company, Bayonne, N.J., petroleum refining was studied. The crude oil received by pipe-line from Pennsylvania is distilled by a continuous process, to yield some seven or eight fractions, each of which is further purified to produce various commercial grades of oil. Lubricators and paraffin wax are also produced here, and one of the most interesting sights was the view of the enormous filter-presses, with five hundred cells, forty-eight inches in diameter, for collecting the crude scale wax; also the barrel factory and automatic can-making machines. Twenty-five acres of white-oak woodland are cleared daily to supply the staves for the barrels. At the Murphy Varnish Company, Newark, N.J., a descriptive lecture upon resins and varnish-making by Mr. Franklin Murphy preceded the inspection of the works. The remarkable

cleanliness of the entire plant, and the great care exercised in selection and treatment of the raw materials, are very striking.

At the Bergenport Chemical Works, Bayonne, N.J., was seen the manufacture of sulphuric acid by the chamber process, followed by concentration of the weak acid in platinum and cast-iron stills. The Nichols Copper Company, Laurel Hill, L.I., showed the reduction of copper from the ores and its refining. The works of the J. T. Baker Chemical Company, Phillipsburg, N.J., showed the manufacture of chemically pure salts and acids. Numerous ingenious devices and apparatus were here brought to the attention of the class. At the great plant of the Bethlehem Steel Company, South Bethlehem, Pa., were seen iron blast-furnaces and open-hearth steel-making; also the manufacture of ordnance, including 12-inch guns. The plant of the Lehigh Portland Cement Company, Ormrod, Pa., showed the making of cement from shale and limestone. The rotary kilns and extensive grinding outfit were points of much interest. The day spent at Kane, Pa., was one of the especially pleasant experiences of the trip. On arrival the party was met by a reception committee, and later were conducted to the various factories by officers of the companies. The American Plate Glass Company, James City, Pa., was visited under the personal guidance of Mr. E. B. James, vice-president of the company, who also furnished a special train on the Kane & Elk Railroad to convey the party to James City. Next a stop was made at the wood distillation plant of the James Manufacturing Company, where the making of charcoal, wood alcohol, and acetate of lime, was studied. At the Pennsylvania Window Glass Company, under the guidance of Mr. E. H. Kemp, treasurer of the company, the very interesting processes of blowing cylinders, opening and flattening the sheets of glass, were seen. The remarkable dexterity of the blowers in manipulating the large masses of soft glass is a continual source of interest.

Opportunity was also afforded to see the Owens bottle-blowing machine in operation, turning out standard quart milk bottles at the rate of eight per minute. Five men (unskilled labor) can tend two of these machines. The American Acid and Alkali Company,

Bradford, Pa., has the largest plant in this country for the manufacture of oxalic acid from saw-dust. Pending certain changes in progress, the plant was not in operation at the time of the visit, but excellent opportunity was afforded to inspect the very modern equipment and get details of the process. Here was also seen the operation of drilling an oil well.

The Atlantic Refining Company (Eclipse Works), Franklin, Pa., is an extensive plant where the various operations of petroleum distillation were again studied; also the recovery of the spent acid from the refining, and its reconcentration to high strength in cast-iron and glass stills. The Testing Laboratory of the Galena Signal Oil Company here, in charge of Dr. P. Conradson, was also opened for inspection, and several very interesting appliances were exhibited. The Colburn Machine Company at Franklin permitted an inspection of their new machine for the automatic making of window glass, by drawing the soft glass directly in flat sheets. Although still in the development stage, his machine will doubtless exert considerable influence on the present methods of making window glass. At the Macbeth-Evans Glass Company, Charleroi, Pa., a diversified series of glass-blowing and working operations were observed. The making of glass pots, the production of lenses for signal lanterns, the making of silvered reflectors and mirrors, pressed ware, cut ware, and the artistic decoration of shades, globes, and lamp chimneys, were all found most interesting.

The National Tube Works, McKeesport, Pa., besides showing the usual blast-furnace and open-hearth processes, gave the first view of the Bessemer process in operation. Here the making of lap and butt welded tubes was seen in detail. The Harbison-Walker Refractories Company, Hays Station, Pa., produces fire-brick and basic and acid furnace linings of various kinds. Both circular and rectangular kilns are used, and the methods of indicating and controlling the temperature were most interesting. At the H. J. Heinz Company, Pittsburg, a thoroughly organized establishment of much interest was seen. Food products, preserves, sauces, relishes, etc., are there prepared with scientific attention to cleanliness and purity. The National Lead and Oil Company, Pittsburg,

make linseed oil, white lead, by the Dutch process, red lead and litharge. All of these processes had much interest, both chemically and from the mechanical point of view.

The Crucible Steel Company, Pittsburg, make puddled iron for muck bars, which are then converted to steel by the cementation process or made into crucible steel of special kinds by melting, with the addition of suitable ingredients, in crucibles holding one hundred pounds each. The drawing and annealing of wire and drill rods was fully shown and described. The Carnegie Steel Company, Duquesne, Pa., furnished opportunity to inspect the making of merchant bar and structural material in a very large way.

The plant of the American Sheet and Tin Plate Company, Vandergrift, Pa., was the last place visited, and proved to be one of the most interesting. Here was seen the rolling of thin plate and sheet iron, with all the necessary annealing and pickling operations. Galvanizing and making of corrugated sheets is done in machines of the latest labor-saving type.

A modified form of chamber process for sulphuric acid making was here seen. The system was supplied with concentrated sulphur dioxide gas from an automatic brimstone burner of the agitating type. This entire plant was one of the cleanest and best cared for of any visited on the trip.

The party was made up of nineteen students, seven from Course V., one from Course VIII., and eleven from Course X., most of them being members of the class of 1908. Two of these dropped out during the trip, but the rest kept together until the last day. Accompanying the party were Professor F. H. Thorp, who arranged the details and had charge of the instruction, Mr. John F. Norton from the Industrial Chemical Laboratory, and, for a part of the time, Professor Talbot. Attendance upon the trip was voluntary, and each member met his own expenses. The estimated cost of the trip, including return to Boston, was \$75, and it is believed that the legitimate expenses incurred have not exceeded that amount.

Many evenings and several afternoons were devoted to conferences and discussions of the industries visited, in order that the men

might fill out their notes and gain a fuller understanding of the processes and appliances which had been seen. It is expected that before October 15 the members of the party will submit detailed reports on all plants visited, from which selections will be made, to be placed on file in the Chemical Library.

At several places special courtesies were tendered. At the Tide Water Oil Company the party was entertained at dinner, and at the H. J. Heinz Company a light lunch was served, and souvenirs of the visit presented to each. The Manhattan Rubber Company, the American Plate Glass Company, and the Atlantic Refining Company provided special transportation for the party. The Harbison-Walker Company presented fine leather-bound copies of their catalogue, containing information relative to the use and properties of their products; and at several other places samples of materials and products were given us.

In the course of the trip several former Institute students were met in the works which were visited. At the Manhattan Rubber Company, Mr. A. T. Townsend, Mechanic Arts, '84 (president of the company), and Mr. B. M. Mitchell, '93; at Colgate & Co., Mr. G. M. Green, '03; at Bergenport Chemical Works, Mr. Charles E. Baldwin, '00; at American Acid and Alkali Company, Mr. E. C. Emery, '98; at National Tube Works, Mr. Charles C. Briggs, '00; at Carnegie Steel Co., Mr. F. W. Coburn, '01, and Mr. F. H. Wilcox, '06. To the aid and interest of these gentlemen much of the success and pleasure of the visits is due, and the spirit of fraternity and comradeship was awakened between the students and the older men. This is one of the useful results of these tours. A rather noticeable incident in making the arrangements preliminary to the trip was the unusually large proportion of places where application was made to which visiting permits were granted, over 80 per cent. of the replies being favorable.

Besides the formal inspection of works, which was the main object of the trip, there was considerable opportunity for sight-seeing and pleasure trips during the tour, notably in the vicinity of New York and Pittsburg, at Allentown, Bradford, Rock City, and Franklin. The journey from Allentown to Kane and Franklin traverses some

of the most picturesque parts of Pennsylvania, affording good views of the anthracite coal and oil regions of that State. Throughout the time good weather was the rule, and the members of the party will look back upon the trip as a most enjoyable experience and one which will be long remembered.

FRANK H. THORP.

MINING SUMMER SCHOOL

The Summer School in Mining Engineering and Metallurgy was held in Nova Scotia during the month of June. A party of four, consisting of Professor Locke, Mr. Reed, Mr. Bartlett, and Mr. Beckman, left for Yarmouth Tuesday afternoon, June 9, by boat. At Yarmouth the train was taken over the Dominion Atlantic Railway, which brought the party to Middleton Wednesday afternoon, June 10. Twenty-four hours were spent here, visiting the iron mines of the Londonderry Iron Mining Company at Torbrook.

The next jump took the party by rail to Kingsport, and thence, by steamer on the Bay of Fundy, to Parrsboro. The object here was a trip by motor boat to Cape Blomidon to search for fossils and to study geology.

Saturday, June 13, was the date of leaving Parrsboro and arriving at Spring Hill, where visits were made to the coal mines and the surface plants connected therewith.

Sunday was spent very quietly in Spring Hill. This day marked the culmination of three days' rain.

Monday, the 15th, was spent in travelling to Joggins. Although only a short distance, it required about five hours and involved two changes by railroad. The last part of the trip over the mining road will be long remembered by the party. At Joggins Mr. Barnhill, a former student of the Institute, spent half a day with the party, showing the wonderful geological section along the shore. Visits were also made to the new shaft workings in the coal mine, and a study made of the new surface plant in process of erection.

Tuesday, June 16, the party left Joggins to go to New Glasgow. *En route* a side trip was made to Chignecto to see a new power plant, developing electricity from low-grade coal at the mine and supplying it for power purposes at Amherst. Two days were spent in New Glasgow, and the following works visited: the rolling

mill of the Nova Scotia Steel & Coal Company; the new Allan shafts of the Acadia Coal Company; the Government Diamond Drill prospecting outfit at work upon the coal mines of the Acadia Company; the machine shop of the Sutherland Rifle Sight Company, where extreme accuracy is required in machining the parts of this device.

Thursday, June 18, was spent in travelling to Antigonish, and thence by stage 60 miles to Isaacs Harbor, where the arrival was made shortly after midnight. No one was up in the hotel, and the driver told the party to take any rooms that they could find empty. He reported that it was the custom of the landlord to get out in the morning and count the number of hats in the front hall and get breakfast for that number. A stop was made here until Tuesday night, June 22. A complete study was made of the underground workings and the surface plant of the gold mine of the Boston-Richardson Mining Company. It was a delightful experience, and the members of the party were sorry to leave. The stage trip was repeated back to Antigonish, and a long jump by rail was made to Sydney, where a stop of a week was made. The party saw the mines and surface plants of the Dominion Coal Company at Glace Bay, the blast furnaces, Bessemer converters, open-hearth furnaces, rail mill, rod mill, sulphuric acid plant, coke ovens, and gas plant of the Dominion Iron & Steel Company at Sydney, and the mine and surface works of the Nova Scotia Steel and Coal Company at North Sydney. At Glace Bay two members of the present Junior Class were met. They were spending the summer in practical work underground.

The party broke up on Tuesday, June 30. Professor Locke made a visit to the gold mine of the Great Bras d'Or Mining Company, thirty miles north of Baddeck, where he found two members of the class of '08, Tse and Hammond, at work for the summer, and thence returned to Boston. Mr. Reed stopped over a few days to visit Mr. R. F. Dimock, his classmate, who is connected with the Dominion Iron & Steel Company. Messrs. Bartlett and Beckman returned to Boston direct, stopping over one day in Halifax.

The party was small this year, but this in itself was a great ad-

vantage because the members could see everything fully. A cordial reception met the men at every point, and it is their desire to be put on record as appreciating the many courtesies which they received at the hands of the managers and superintendents in all the places visited.

C. E. LOCKE.

THE ALL-TECHNOLOGY REUNION

The Second Tech Reunion will be held next June, and a meeting of the Association of Class Secretaries and the Executive Committee of the Alumni Association will be held early in October to discuss the main features of the celebration and appoint a committee to take charge of the arrangements. The interest that is being shown in the Second Tech Reunion among all the classes insures the greatest convocation of Tech men ever assembled, and the programme will be fully in keeping with the importance of the occasion.

The general plans will be settled in a few weeks, and it is suggested that the various alumni associations make the reunion a special order for their annual meetings this winter. The next number of the REVIEW will announce the plans of the committee, and secretaries of classes and alumni associations will be notified of the details as soon as they have been decided upon.

STATISTICS OF REGISTRATION 1908

The following table gives a comparison of students registering on the first day of the school year for five years, including 1908:—

	<i>First Day.</i>	<i>End of First Week.</i>	<i>Catalogue Number.</i>
1904	1422	1546	1561
1905	1283	1429	1466
1906	1150	1373	1397
1907	1226	1390	1415
1908	1224		

College men last year, 155.

College men this year, 159.

TECH MEN IN THE PUBLIC EYE

CARLETON A. READ ('91) has been appointed professor of steam engineering at the Worcester Polytechnic Institute, and assumed his duties in September. Professor Read goes to Worcester from the New Hampshire State College, where he was professor of mechanical engineering. He was born at Hanover, Mass., in 1868, and was graduated from the Massachusetts Institute of Technology with the class of '91. He was an instructor at the Institute when he was called to the chair of mechanical engineering at the State College, Durham, N.H.

SAMUEL M. FELTON ('73) in a recent newspaper interview says: "The opportunities to-day for a young man to succeed and work his way up in the railroad service are just as good as they ever have been, provided he devotes his entire time and attention to the interests of his company." "There have been many times," continued Mr. Felton, "when to become the head of a great system, or to have a seat in the councils of its directorate, depended more upon other influences than that of actual ability or knowledge of the business, but this has diminished of late years, and the man who succeeds to these positions now does so on the ladder of toil. The growing thousands of miles of railroad construction afford many more of these positions worth working for, and the positions are being given to the men who are capable rather than to favorites knowing nothing of the business." Mr. Felton was born in Philadelphia on Feb. 3, 1853, and entered the railroad service at the age of fifteen. He became a rodman on the Chester Creek road in 1870, and worked through 1871 as leveller and assistant engineer of the Lancaster road. He then entered the Junior Class of the Massachusetts Institute of Technology. In the summer of 1872 he was engineer in charge of the surveys of the Chester & Paoli road. Then, being graduated in 1873 as civil engineer, he became chief engineer of the Chester & Delaware River road, and later general

superintendent of the Pittsburg, Cincinnati, & St. Louis road. In 1882 he was general manager of the New York & New England road, remaining there two years, when for a short time he was assistant to the president of the New York, Lake Erie & Western, later becoming vice-president of the New York, Lake Erie & Western, in charge of the traffic department. In 1885 he was first vice-president of the Erie, in charge of the traffic and operating departments. From 1890 to 1892 he was vice-president of the East Tennessee, Virginia & Georgia road and Louisville Southern. From 1890 to 1899 he was president and then receiver of the Cincinnati, New Orleans & Texas Pacific, and President of the Alabama Great Southern Railroad. From 1899 to 1908 he was president of the Chicago & Alton, when he was called to the presidency of the Mexican Central Railroad, which office he now holds. Mr. Felton is a member of the Corporation of the Institute.

BERNARD VONNEGUT ('76), architect, of the firm of Vonnegut & Bohn, died at his home in Indianapolis, Ind., August 7. Mr. Vonnegut was a special student in architecture at the Institute of Technology, and took a finishing course at the Polytechnic Institute of Hanover, Germany. In 1888 he joined Mr. Bohn in business, and has been the architect for some important buildings in the State of Indiana. He was highly esteemed for his straightforward honesty and open business methods. He was a member of the Architectural League of New York and of the American Institute of Architects. One of his sons, Kurt, was graduated with the class of 1908.

M. FRANCIS OLIVER ('97) has recently been appointed deputy State architect of New York by State Architect Ware. Governor Hughes signed the bill creating the office some weeks ago, but the selection has just been made, after a thorough search for the most efficient man. The salary is \$5,000 a year. Mr. Oliver was born at Annapolis, and took a special course at the Institute with the class of 1897. He was connected with the firm of Butler, Rodman & Oliver of New York, and has been engaged in private practice in New York and Concord, N.H.

HIRAM P. MAXIM ('86) is the inventor of the new noiseless firearm, which is attracting much attention in army circles. In discharging the weapon invented by Mr. Maxim, the only sounds heard are the click of the hammer and the thud of the bullet, and the inventor contends that this insidious weapon will be a very potent factor in establishing universal peace. The silencing device consists of a series of aluminum cells that automatically cut off the powder gases from sudden escape after the bullet has passed from the rifle barrel. These gases escape slowly without making noise. Experiments have been made with it recently by the American Society for the Prevention of Cruelty to Animals, who are seeking to find a slaughtering weapon that will kill in a humane manner. Heretofore firearms have been impossible on account of the loud report. In a recent interview Mr. Maxim says: "In making a silent rifle for the army, many difficulties will have to be overcome that are not met in this slaughter gun. In this gun only the report has to be overcome, but in an army weapon I must start further back, and first overcome the sound of the falling hammer." Mr. Maxim was born in Brooklyn thirty-nine years ago, and was a special student in the class of '86. He has recently been interested in the automobile business at Hartford, Conn.

CHARLES R. RICHARDS ('85), who has been director of the Manual Training Department, Teachers' College, Columbia University, has resigned to accept the position of director of Cooper Union, New York City. Mr. Richards assumes this important position well equipped for the problems that he will face. He was born in Boston in 1865, educated in the public schools, and was graduated from the Institute with the class of 1885. After his graduation he became assistant superintendent of the Whittier Machine Company, and in 1888 he organized the Department of Science and Technology at the Pratt Institute, Brooklyn, remaining in charge until 1898. He then became director of the Manual Training Department, Teachers' College, Columbia University, and has risen to eminence as a teacher and writer in the field of industrial education. Professor Richards started the movement that led to the successful organiza-

tion of the National Society for the Promotion of Industrial Education, and was secretary of the society from 1906 to 1908. He is a member of the American Society of Mechanical Engineers, the Society for the Promotion of Engineering Education, the Eastern Manual Training Association, the Eastern Art Teachers' Association, is a trustee of the Children's Aid Society of New York, and a special Investigator, Department of Labor, of the State of New York. The trustees of the Cooper Union are John E. Parsons, R. Fulton Cutting, Andrew Carnegie, Peter Cooper Hewitt, and George L. Rives.

PROFESSOR GEORGE F. SWAIN, of the Institute, and F. H. NEWELL ('85), director of the Reclamation Service, have been reappointed members of the Waterways Commission by President Roosevelt, in order to insure the continuance of the commission, for which Congress failed to provide. Professor Swain has also been appointed, by Governor Guild, a member of the State Conservation Commission to act in co-operation with the national organization.

FRED MORRILL ('07) has gone to China to begin his duties as instructor at the Imperial University at Tientsin. He will teach Chinese students railroad engineering in English, there being a corps of English instructors at the university.

ARTHUR D. DEAN ('95) has been appointed chief of the division of trade schools in the New York State Education Department by Commissioner A. S. Draper. Since 1906 Mr. Dean has been supervisor of Industrial Education in the Young Men's Christian Associations of Massachusetts and Rhode Island, and for the past three summers has been in charge of the department for the training of teachers for industrial education in the Cornell University Summer School.

CLARENCE D. HOWE ('07), of Waltham, has recently been appointed professor in civil engineering at Dalhousie University, Halifax, N.S. Mr. Howe took a post-graduate course at Technology, serving at the same time as civil engineering instructor in the same department.

WALTER B. RUSSELL ('97) has been appointed director of the Franklin Union, Boston. In 1791 Benjamin Franklin bequeathed money to the city, a portion of which was to be available, after a certain amount had accumulated, to give young men an opportunity to learn a trade. Andrew Carnegie has made a large addition to the Franklin bequest, and a substantial and attractive building for the Franklin Union has been erected on Berkeley Street at the corner of Appleton. Mr. Russell, who takes this important position, was graduated from the Institute in the course of mechanical engineering. For three years he was assistant at the Institute, and in 1900 was appointed an instructor at the Pratt Institute, Brooklyn, N.Y., in the Department of Science and Technology, afterwards taking charge of the courses in drawing, strength of materials, steam engineering, and mechanics. In 1906 he resigned to take charge of the educational system of the New York Central lines. This railroad has now ten classes which have been developed by Mr. Russell, both for apprentices in the shops and for mechanics and foremen in the evening.

ISAIAH S. P. WEEKS ('71) died at Lincoln, Neb., in September. Mr. Weeks has been a prominent figure among railroad builders of the West. He was born at Nantucket, May 8, 1847, and after being graduated with the class of '71 he went to Nebraska to take a position with the Burlington road, remaining in its employ until 1874, when he became division engineer of the Northern Pacific. In 1885 he returned to the Burlington to serve as chief engineer of the lines west of the Missouri River, in which office he remained until his death. Mr. Weeks added about 3,000 miles to the Burlington system, nearly one-third of these additions being built between the years 1886 and 1887. Mr. Weeks was married to Sarah Curtis Thayer, Dec. 30, 1873, who survives him with three children. One of them, Paul Weeks, a mechanical engineer, with the Baldwin Locomotive Works in Philadelphia, was graduated from the Institute with the class of 1902.

FRANK E. ALDEN ('79) died at his summer home at Edgartown, Mass., September 16. Mr. Alden was born near Boston forty-

nine years ago, and took a special course in architecture at the Institute. He entered the offices of Henry L. Richardson, and had charge of the construction of the New York State Capitol at Albany. In 1888 he formed a partnership with Longfellow and Harlow of Boston, with offices in Boston and Pittsburg. The firm became Alden & Harlow in 1895. As a member of the firm, Mr. Alden's name was identified with building the Carnegie Library at Pittsburg, as well as some most important buildings in western Pennsylvania.

JAMES P. MUNROE, '82, has contributed a timely article to the *Atlantic Monthly* for September, entitled "The Heart of the United States." Speaking of the development of the resources of Massachusetts, he says:—

"There are, however, more specific and important things for Massachusetts to learn from Illinois. She ought, above all, to adopt the well-considered plan—almost magical in its effects—of scientifically exploiting her resources, and teaching her farmers, merchants, manufacturers, importers, and exporters what the State is capable of doing. It is a trite saying that only a few of the possibilities of a human being are developed in the ordinary course of a man's or woman's life. It is still more true, however, that but the merest beginning has been made in the development of the resources of Massachusetts or of any other State of the Union. . . .

"For such a development of her resources, the commonwealth needs to study and heed the example of the Middle West: that of educating her citizens in the fundamental principles of production and distribution, and in the application of those principles to the requirements of modern life. The world to-day is a world of applied science; and the line of development to be followed—especially in such states as Massachusetts—is that of the application of science to agriculture, to manufacturing, to commerce, to transportation, and, not least, to education. The states of the Middle West—many of them daughters of Massachusetts—have clearly pointed out the way; it is for Massachusetts to profit by their example and to recover, in leadership along these modern lines, the

educational prestige which, in the ancient and now outworn paths of learning, she for so many years maintained."

ARTHUR D. LITTLE, '85, was elected chairman of the newly organized Division of Industrial Chemists and Chemical Engineers at the summer meeting of the American Chemical Society at New Haven. It is believed that the organization of this new division will have an important influence on the development of technical chemistry in this country, and that it will serve especially to bring the society into closer and more effective touch with industrial enterprise and effort. As a beginning in this direction, the division will shortly commence the publication of the *Journal of Industrial and Engineering Chemistry*, for which an especially strong board of editors has been selected.

Mr. Little entered the Institute in 1885, and took a special course of chemistry for three years. His early work was concerned with the development of the sulphite process for the manufacture of wood pulp. He has since been closely identified with the paper industry. His professional work has been chiefly along the development of processes for the chrome tanning of leather, the electrolytic preparation of chlorates, and the chemistry of cellulose. He has been for some years at the head of a large organization engaged in the practice of engineering chemistry in Boston. He is official chemist of the American Paper and Pulp Association.

GEORGE E. HALE, '90, director of the Solar Observatory of the Carnegie Institution, has been elected a foreign correspondent of the Paris Academy of Sciences in the place of the late Asaph Hall.

GENERAL INSTITUTE NEWS

SOCIETY OF ARTS

Owing to the fact that the publication of the research work done at the Institute is now adequately provided for in other ways, the Executive Committee of the Corporation has voted to discontinue the publication of the *Quarterly* after the December issue. The Proceedings of the Society of Arts will be published separately, and will be sent to all members of the society.

ELECTRICAL ENGINEERING

The War Department has detailed Captain C. C. Carter (West Point, '99) to spend the coming year at the Institute for the purpose of studying electrical engineering. Captain Carter belongs to the Coast Artillery, and for several years has been an instructor in the Artillery School at Fort Monroe and in the School of Sub-marine Defence at Fort Totten, besides serving on the United States Artillery Board and the United States Torpedo Board. It is now planned to carry on a more advanced course of instruction to officers in the school at Fort Monroe, and Captain Carter has been detailed to study for the coming year for the purpose of preparing himself to give instruction in this advanced course, which will include a considerable assignment of electrical engineering and related branches.

Mr. W. V. Lyon's (Instructor in Electrical Engineering) book of Electrical Problems will be issued from the press in a short time.

MECHANICAL ENGINEERING

To the space heretofore occupied by the Engineering Laboratories has been added a portion of that formerly occupied by the lunch-room, which measures about 54 by 37 feet, or about 2,000 square feet. Approximately one-half of this space is occupied by the new Westinghouse Parsons Steam Turbine and the auxiliary apparatus.

The turbine has a capacity of 500 kw., and has three diameters of rotor. It is installed in such a manner that either saturated or superheated steam may be used, the superheater having a capacity of 10,000 pounds of steam per hour at a pressure of 250 pounds per square inch, superheated 250 degrees Fahrenheit.

The turbine is set on an I beam foundation, thus leaving the space beneath it open.

The floor of the room is of cinder concrete, five inches thick. This floor has been stiffened at the points where the load is applied by I beams, resting on piers built in the sub-basement. The bottom of the turbine bed is set even with the floor, hence the floor plates are about 16 inches above the floor, and thus all the small piping and connections underneath are exposed.

The condenser is one of the latest designs of the Alberger Company, with steam entering at the bottom, and with hot well beneath the steam opening.

The circulating water for the condenser is drawn from a canal 30 inches wide and 3 feet deep, which has been dug and concreted, in the sub-basement.

This canal connects with the water reservoirs in the Henry L. Pierce Building and in Engineering A.

The circulating water is pumped from this canal by a Lawrence Centrifugal pump, with a seven-inch diameter discharge, driven by a 35 H.P. vertical engine, set on a masonry foundation.

The cooling water leaving the condenser is to be piped to the cooling tower, from which it returns to the canal and reservoirs through piping installed about three years ago. A dry air pump, formerly in the Henry L. Pierce Building, has been moved into the turbine room, and is to be connected with the top of the condenser.

The condensed steam will be discharged into tanks on scales and weighed.

The water supplied to the glands is to come from the condensed steam. The leakage from the glands will thus introduce no error in the steam weight.

To study the flow through the turbine, connections have been

made in the rotor casing, so that the pressures can be noted, at every point, where the length of blade changes or where the diameter of the rotor changes.

About thirteen gauges are to be connected to the side of the turbine for these pressures, holes having been drilled in the casing for this purpose.

The power of the turbine is to be absorbed by a water brake, designed and constructed by the Westinghouse Company.

It consists of a wheel of broad face on the rotor shaft, with teeth like those on a milling cutter. The casing which surrounds this wheel has teeth on its inner circumference. Water is taken into the space between the two wheels. The outer casing has an arm which connects with some weighing system of levers or which bears on a scale.

A two-trolley crane of six tons' capacity has been erected over the turbine. The rotor weighs about six tons. For several years, tests of steam turbine plants, varying from 500 to 5,000 kw. capacity, have been made by students under the direction of the department for their thesis work, but the limitations necessarily imposed upon outside plants have prevented the carrying on of such investigations as we shall now be enabled to make in consequence of the possession of a plant of our own of practical size.

The new Option in Steam Turbine Engineering, which has been introduced into the Course in Mechanical Engineering, is referred to elsewhere in the REVIEW.

The usual number of investigations were made during the last school year, especially in connection with the thesis work, a few of the more important being as follows:—

1. Friction and Velocity of Steam in a Nozzle. By an advanced student. The nozzles used had a diameter seven-eighths of an inch at the throat, and varied in length from eighteen inches downwards. As this nozzle was shortened, it approached the condition of the nozzles used in some steam turbines.
2. Experiments to determine the causes of the occasional freezing of the moisture in the distributing valve of the engine and tender equipment of the air-brake system.

3. A continuation of the investigation of the causes of failure of locomotive driving springs.

4. Investigation of the friction of high pressure air flowing in pipes. For this purpose, piezometer rings were used on each side of each fitting, and the losses due to fittings and to straight runs of pipe were noted.

DEPARTMENT OF MATHEMATICS

Professor Bartlett resumes mathematical teaching after two years of administrative work as Acting Secretary of the Institute.

Professor Wells's leave of absence is continued during the coming year.

Dr. Moore has returned from a year of advanced study at the University of Turin. An interesting part of his year's experience was his participation in the Fourth International Congress of Mathematicians, held in April at Rome. An account of the congress by Dr. Moore has appeared in the September Bulletin of the American Mathematical Society.

Mr. Joseph Lipke, a graduate of Columbia University, comes to the Institute from the University of California as Instructor in Mathematics. Mr. Lipke succeeds Dr. W. H. Roever, who accepted in June an appointment as Assistant Professor at Washington University, of which he is a graduate.

The first six chapters of Volume II. of Woods and Bailey's "New Course in Mathematics" have been issued in pamphlet form for the use of second-year students, pending the publication of the whole volume.

THE GRADUATES

THE TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA

A special meeting of the Technology Club of Southern California was held at Los Angeles, Monday evening, July 13, to meet Professor and Mrs. George F. Swain, who were spending a few days in our section. The meeting was at the home of Mr. Burdett Moody on Beacon Street, who very kindly opened his spacious rooms for our entertainment. Mr. W. T. Knowlton, president of the association, called the meeting to order, and after a few words of welcome called on Professor Swain, who gave us a very interesting talk in a general way about the conditions at the Institute, emphasizing the importance of the two great questions which the Institute is facing to-day, the choice of a new president and the question of a change of site.

The culinary department of Mr. Moody's establishment then furnished us with refreshments, and altogether a very pleasant evening was spent renewing old acquaintance with Professor Swain and enjoying the pleasure of meeting Mrs. Swain, both of whom were greatly pleased with Southern California, and expressed a desire to make their home here. We certainly hope that their wish will be gratified, and that we shall see them with us soon again. The following men were present: V. L. Benedict, L. Bixby, H. M. Blaisdell, W. D. Fuller, H. G. Folsom, J. W. Johnson, E. Johnson, W. T. Knowlton, C. T. Leeds, E. L. Mayberry, F. H. Merrill, B. Moody, L. F. Mesmer, H. B. Perkins, L. A. Parker, H. A. Prime, A. B. White.

On Friday, July 31, Professor Richards dropped in on us unexpectedly, and, not knowing of our Technology Club, invited those Tech men whose addresses he knew to meet him at the Van Nuys Hotel, where he had arranged a dinner, after which the meeting adjourned to Mr. Storrow's office and listened to a paper by Pro-

fessor Richards on his "New Design for an Ore Separator." The following men were present: V. L. Benedict, J. W. Johnson, W. T. Knowlton, Dr. Hale, F. H. Merrill, B. Moody, E. L. Mayberry, L. A. Parker, S. Storrow.

It is to be regretted that our association did not know of Professor Richards's visit, as there were many men not notified who would have been glad of an opportunity to shake the professor by the hand. We would take this opportunity to again call attention to the fact that we have an organization here which numbers forty-seven men, that we have regular meetings the first Saturdays in June and December, and, if any of our friends from Tech are going to be in this section other than on those dates, we would deem it a favor if they would let us know in advance through our secretary, whose name can be found in THE TECHNOLOGY REVIEW.

ARTHUR B. WHITE, '00, *Secretary*,
606 San Fernando Building, Los Angeles, Cal.

THE TECHNOLOGY CLUB OF PHILADELPHIA

The first annual field day of the Technology Club of Philadelphia was held at the Woodbury Country Club on Saturday, June 20. There was an attendance of thirty-four, including many wives and friends of the members. The great success of the outing was largely due to the efforts of the Woodbury members and their wives, who engineered the affair. Many of the party came down together from Philadelphia in the early afternoon, and enjoyed golf, tennis, quoits, and a baseball game between the Woodbury Country Club and the Belmont Cricket Club. An excellent lunch was served by the Woodbury ladies, and this was followed by dancing, billiards, pool, etc., in the evening. Everybody present had a most enjoyable time.

The field day was a fitting close to one of the most active and successful seasons that the club has ever had. The series of informal dinners which did so much for Tech spirit and good fellowship in the spring will be continued this fall with renewed interest.

All Tech men in Philadelphia should get in touch with the club at once, in order that they may not miss the first of these dinners.

PERCY E. TILLSON, *Secretary*,
3411 Walnut Street, Philadelphia, Pa.

THE TECHNOLOGY CLUB OF NEW YORK

Arrangements are being made for smokers, addresses, entertainments, and ladies' night, which will make a full programme for the winter, the first social event being the reception to members of the class of '08, which was held September 26.

A useful reform went into effect at the club this summer; namely, the posting of names for non-payment of accounts. It is the only way to save time, money, and patience.

A more important change will probably be effected in October, which is an increase in the Board of Governors from five to ten members. Notices for a special meeting are now in preparation.

WILLIAM H. KING, '94, *Secretary*,
36 East 28th Street, New York, N.Y.

PUBLISHERS' PAGE

The publishers of the REVIEW believe that its usefulness can be broadened by affording an opportunity for bringing together men who are seeking positions and those who are seeking men. We shall in our next issue establish such a department in our advertising pages, where also will appear other miscellaneous "wants." These matters relating to employment will be brought to the attention of the proper officers of the Institute, who may be able to assist in placing men. A four-line notice half the width of the page will cost one dollar; more than four lines, twenty cents a line additional. Copy for the January issue must be here by December 15.

The year 1909 promises to make important history for ALMA MATER. The reunion which comes in June will undoubtedly be the largest and most enjoyable meeting of the clans that has ever been held. During the year everybody expects that the two vital questions still unsettled will be satisfactorily answered by the Corporation: "Who is to be President of the Massachusetts Institute of Technology?" and "Shall the Institute remain where it is or move to a new location?" Because of the great interest centred in these matters and in view of the largely increased circulation which the REVIEW will have as the official publication of the Alumni Association, the influence of the

REVIEW will be largely increased, and its advertising pages will be greatly enhanced in value.

The next number will be sent to over eight thousand Institute men, the larger number of whom are buyers or influence buying. We hope that you who read this and have something to sell will try the January number with a keyed advertisement, to see what it is worth. We think it will surprise you.

The January REVIEW, which begins volume eleven, will be of much interest to sons of Technology. It will contain

**A REVIEW OF
THE FUTURE.**

the general plans for the All-Technology Reunion to be held in June, an illustrated view of student life and activities from the students' standpoint, and a symposium from alumni officials bearing on the part the Alumni Association is taking and may take in the future on the development of the Institute.

There will be an article on the new Research Laboratory of Industrial Chemistry, which brings Technology into the most intimate relations with the great industrial institutions of the country, and we hope to have a review of some of the work of the Mechanical Engineering Department leading along similar lines.

The most important achievements of Tech men will be mentioned under the heading "Tech Men in the Public Eye," and, if a classmate or acquaintance is worthy of mention in this department, we shall be glad to have you send us the facts. We desire to make this list selective, and it will be edited with discrimination.

NEWS FROM THE CLASSES

1882.

WALTER B. SNOW, *Sec.*, 170 Summer Street, Boston, Mass.

J. E. Chapman, with his family, spent the summer as a neighbor of the secretary at North Falmouth, Mass. Since the early eighties Chapman has been located with his brother at Evanston, Wyo., where they control a hundred thousand acres of land, number fifty thousand sheep among their live stock, and put up a couple of thousand tons of hay per year. J. E. usually spends the summers in the east and winters in Wyoming, while his brother, G. F., is usually in or near Boston during the winter, and in Wyoming during the summer and fall.

1885.

ISAAC W. LITCHFIELD, *Sec.*, 88 Broad Street, Boston, Mass.

The appointment of Richards as director of Cooper Union, New York city, will be noted with satisfaction and pride by every Tech man. The position carries with it perhaps as much responsibility and honor as any in the field, and, although, he has a most serious and difficult problem before him, his success as an educator and his ability as an organizer indicate without doubt that Cooper Union will soon begin its period of greatest usefulness.—Hugh McRae was in Boston during September, and some of the fellows caught a passing glimpse of him.—Morris Wilder, who has been spending the summer at Biddeford Pool, Me., dropped into the office between trains.—Rawson, who was for several years with Winslow & Bigelow, has gone into business for himself as an architectural engineer at 16 Beacon Street, Boston.—Charles Stanley Ruffin died June 30, after a long illness at the home of his mother, Mrs. Josephine St. Pierre Ruffin, in Boston. He was a son of Judge George L.

Ruffin, the first negro in the North to be appointed a judge. His appointment to the Charlestown court was by Governor Benjamin F. Butler. Stanley Ruffin was born in Boston, was graduated from the grammar and the English high schools, and studied electrical engineering at the Institute. He was sent, before the completion of the course, to Omaha by Charles Francis Adams, president of the Union Pacific Railroad, with a party of Harvard and Technology students to enter the mechanical department of the Union Pacific. On the death of his father he returned to Boston, and entered the employ of the Edison Electric Illuminating Company. He resigned in 1893 upon obtaining an important contract. He served in the Boston Common Council from Ward 9 during the years 1894, 1895, and 1896, serving as Council chairman, Committee on Subway, and a member of the Committee on Finance and other important committees. He was elected an alternate delegate from the Eighth Congressional District to the Republican National Convention at St. Louis in 1896.

1887.

EDWARD G. THOMAS, 157 Congress St., Brooklyn, N.Y.

Sturges has returned to business in good health and reinvigorated by his enforced rest. He is now a member of the firm of S. B. Chapin & Co., stock brokers, in the Rookery, Chicago.—Stoddard has the sincere sympathy of his friends in the loss of his eldest daughter, Mary LeBaron, who died early in the summer at his home at Welland, Ont.—Draper spent the summer in Europe.—The Secretary is now superintendent of the Ariston Marble Co., 203 37th St., Brooklyn, N.Y.

1888.

WILLIAM G. SNOW, *Sec.*, 1108 Penn Mutual Bldg., Boston, Mass.

Owing to the commendable promptness with which the July number of THE TECHNOLOGY REVIEW was issued, your secretary's budget of Class News, which appears below, was received too late for publication.

Not until recently did the secretary learn definitely of the death of Algernon Sydney Warren, which occurred Nov. 3, 1907, at Buffalo, N.Y. Warren had been connected with the Calumet & Hecla Company for a number of years. He was always interested in class activities at the Institute, and showed his continued interest through valuable assistance rendered in securing the Walker Memorial Fund. Although he had not been in the best health, his death was entirely unexpected and occurred from heart failure.—B. R. T. Collins is in El Paso, Tex., where he will spend several months in connection with the El Paso Electric Railway Company, one of the properties managed by Stone & Webster.

The great class event of this year was its twentieth anniversary of graduation, which was celebrated in a fitting manner on June 8 and 9 at Plymouth. Starting from the Technology Club in automobiles, the members journeyed to the Hotel Pilgrim, where after luncheon a long-to-be-remembered baseball game took place. A cup was awarded to Shaw, the champion base-runner. Later the class was entertained at Stone's beautiful place on Manomet Point, where the members were received by Mrs. Stone. The class dinner took place at the hotel in the evening, and was not the least attractive feature on the program. Good old Tech songs were sung, also some new ones. Stone told us about doings at and aspirations of the Institute, with which as member of the Corporation he is more familiar than other members of the class. After dinner came the bowling contest, Newton landing the cup. Next day came golf, tennis, and more baseball, the golf cups going to Binney and Williams in the two classes. Leaving the hotel after luncheon, the cars journeyed leisurely along the South Shore, arriving at the Brunswick in time for the general spread of the Alumni Association. Here we were joined by other '88 men, going later to the Pop Concert for the grand finale of our two days' celebration. All voted the outing a most successful one. Expressions of regret were received by the secretary from a large number of members unable to be present. Members present: Bates, Claflin, Gerrish, Child, Faunce, Runkle, Shaw, Stone, Holman, Conner, Stetson, Newton, Sawyer, Besler, Buttolph, Wood, Brown, Blanchard, Hamblet,

Snow, Cheney, Underhill, Linzee, Binney, Robb, Thompson, Cole, Pierce, Baldwin, Williams, Sjöström, Bradlee, Bridges, Frizzell.

The present address of Richard Hampton Vose is Colima, Mex., where he is bridge engineer of the Mexican Central Railway.—The address of Arthur B. Frizzell is 6 Felton Street, Cambridge, Mass.

1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Professor Albert Sauveur will spend the winter in Paris, having been granted leave of absence for the college year 1908-09. He expects to publish in the near future "Laboratory Experiments in Metallurgy," a text-book for general use. On Easter Sunday last Professor and Mrs. Sauveur were presented with a son and heir, Albert, Jr.—Edwin F. Dwelley has recently made a lengthy report to the Lynn city council, defending the present water supply of that city. The report will be published in book form by the city. W. S. Johnson had previously reported on the same question, and recommended installing a filter plant.—In view of their earlier experiences on the board of editors, certain members of the class will be interested to learn that the Executive Committee has given the *Technology Quarterly* a "Christian burial."—The following new addresses have been received: H. H. Hunt, care of Stone & Webster, 147 Milk Street, Boston.—F. W. Ranno, Office of Chief Engineer, U. P. R.R., Omaha, Neb.

1892.

PROF. WILLIAM A. JOHNSTON, *Sec.*, Mass. Inst. of Tech., Boston.

The following letter has been received from Francis Walker, which, I am sure, will be of interest to the class of '92:—

I was glad to get your letter, and can assure you that, although I have never, up to the present, contributed any items of personal information for the class news, it has not been from a lack of interest, as I have always read

those published. I feel that at the present time I may appropriately do so, however. It gives me great pleasure to announce to you and all classmates that I was married on June 25, in London, to Miss Helen O'Sullivan. As the government granted me my annual leave on the other side, we were able to enjoy a very pleasant trip in France and Switzerland. I went to Europe in November, 1907, and travelled considerably in Great Britain, Germany, France, etc., on the business of the Department of Commerce and Labor. While spending a few days in Rome about Christmas, 1907, I had the pleasure of meeting Leonard Metcalf in the Vatican. We did most of the principal sights of the city together, and it added greatly to my enjoyment of them to be in such good company. I regret that I have not been able to see more of my old classmates. Very few have crossed my path in my various wanderings, and circumstances have prevented me from being present at the annual reunions in Boston. With greetings to yourself and classmates.

—Channing M. Wells writes:—

I am sort of out of the world out here in Southbridge, at least as far as seeing any of the '92 men is concerned, although it so happens that I am just in receipt this morning of a letter from J. Scott Parrish, who is with his family at Falmouth. He writes that he is leaving next week for a canoe trip in Maine and Canada.

As you perhaps know, he is now a full-fledged Virginia colonel, being on the staff of the Governor of Virginia. I have teased him a good deal about this, as it so happens that Governor Swanson is a cousin.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

Orton W. Albee has recovered from a long illness following an operation for appendicitis last spring. After spending the whole summer in recuperating, most of the time at camp on the Damariscotta River, Me., Albee returned to New York in September to resume his work of consulting mining engineering. His address is 1201 Flatiron Building, New York City.—Frederic W. Baker, naval architect, is with the Lake Engineering Company of London,

Eng. Baker's home address is Claymont, Del.—A. F. Bemis is chairman of the committee on standard specifications for staple gray goods of the National Association of Cotton Manufacturers, of which committee S. Parker Bremer is also a member. This committee is endeavoring to secure uniformity in the manufacture of cheaper grades of cotton goods, there being at the present time much diversity in the production of different mills. It is expected that Bemis's committee will co-operate with the committee on uniform contracts of the American Cotton Manufacturers' Association, and, if the results which are hoped for can be attained, they will have an important influence upon the cotton manufacturing industry of the country.—Maurice B. Biscoe is senior member of the firm of Biscoe & Hewitt, architects, of 25 East Eighteenth Avenue, Denver, Col. Biscoe went to Denver early in 1906, having in charge the erection of the Cathedral of Saint John in the Wilderness. In 1907, he formed a partnership with Henry H. Hewitt, '98, and the firm has done a great deal of work. Biscoe is secretary of the Rocky Mountain Technology Club.—John R. Brittain is chief draughtsman of the mechanical department of the Los Angeles Railway Company, 2003 Congress Street, Los Angeles, Cal.—Joseph W. Ellms's address is changed to 2812 Madison Road, Hyde Park, Cincinnati, Ohio.—The new address of Daniel D. Jackson is Department of Water Supply, Gas, and Electricity, 13-21 Park Row, New York City.—Charles H. Johnson, civil engineer and superintendent of construction in the Quartermaster's Department, United States Army, is stationed at Fort Dade, Fla., which is located on Egmont Key, a low sand island at the mouth of Tampa Bay.—The address of George E. Merrill, formerly of Annapolis and Baltimore, Md., is 1629 Asbury Avenue, Evanston, Ill.—The New York address of Percy H. Thomas, of Thomas & Neall, consulting electrical engineers, is 2 Rector Street, New York City. The firm has a Boston office at 12 Pearl Street in charge of Mr. Neall. Thomas devotes most of his time to the work of the New York office, although he is a frequent visitor to Boston.—Robert N. Wallis, treasurer of the Fitchburg & Leominster Street Railway, has been actively engaged in the arrangements for the convention of the American Street

and Interurban Railway Association and its affiliated organizations, to be held at Atlantic City, N.J., in October. The American Street and Interurban Railway Association is a reorganization of the American Street Railway Association, and is the general organization of street railway interests of the country. Connected with this parent organization are five subsidiary associations dealing with accounting, engineering, claim, transportation, and traffic, and manufacturing interests. Wallis is acting president of the first-named of these subsidiary organizations, the American Street and Interurban Railway Accountants' Association, and is a member, *ex officio*, of the executive committee of the general organization. Charles C. Pierce, '86, manager of the railway department of the General Electric Company, Boston, has charge of the entertainment features of the convention, he being one of the vice-presidents of the Manufacturers' Association.—Miss Nettie M. Willey's address is 28 Winslow Street, West Roxbury, Mass.

1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Mr. Charles S. Newhall has temporarily severed his connection with the mining business, and has been spending the past four months at Portland, Ore., with Mrs. Newhall. Besides getting a rest he has made a thorough study of the fruit-growing industry.—Mr. Frank A. Thanisch was still in Arizona at last accounts, although his movements have been so rapid during the past year that it has been hard to keep track of him.—Mr. A. W. Thompson has invented a humidifying apparatus for moistening the air in cotton mills, coal mines, and all other places where dry air is undesirable. It is being put on the market by the G. M. Parks Company of Fitchburg, Mass.—Mr. A. E. Smyser spent his vacation on Cape Cod this summer, and stopped over in Boston on his return long enough to pay a visit to the Institute. Since his rise to the position of general superintendent of the La Belle Iron Works, Steubenville, Ohio, the size of the plant has been increased, and improve-

ments made in the sheet and plate mills. It is owing almost entirely to these improvements that the plant was saved from a complete shut-down during the recent depression. At present they are running at about 40 per cent. of the full capacity. He reports that his brother, F. M., is still with the General Electric Company, while Jim has been forced to spend some time at home on account of ill-health.—Jimmy Driscoll appeared on the streets of Boston a few days ago, looking happier than usual, if such a thing is possible. The cause was a baby girl born the day before.—Johnny Hallaran has left Toledo and come on to Atlantic, Mass., where he was taking life easy at last accounts.—Charles E. Locke spent the month of June in Nova Scotia in charge of the Mining Summer School. Later on he made a trip to the West, and saw Bill Huey at Rinconada, N.M. Bill has a copper mine in embryo, having given up his heating and plumbing business in Boston about two years ago. He believes he has a good prospect. He is well located at an elevation of 8,000 feet, and the climate is delightful. The last report from him was that he was waiting for a cloud-burst to fill his reservoir, and in the mean time was packing water in kegs on burros from a spring two and a half miles away.—Professor E. C. Jacobs, of the University of Vermont, spent the summer vacation at Cape Porpoise, Me., for the benefit of Mrs. Jacobs's health.—A recent number of the Boston Sunday *Herald* contained an account of the work of H. C. Lythgoe in connection with the investigation of food and drugs by the Massachusetts State Board of Health. The article contained cuts of "Lythy" in action on the job. Just at present he is on his annual vacation in the White Mountains, and the quality of the Boston milk supply is suffering in consequence.

The annual meeting of the class of '96 was held at the Technology Club on Tuesday evening, June 9, at 6 P.M. The usual reports were read and approved. Charles E. Locke was elected secretary and Dr. J. Arnold Rockwell assistant secretary for the ensuing year. It was voted to levy an assessment of \$1.00 covering the years 1908, 1909, 1910. The usual class dinner was omitted this year, so that all might participate in the spreads and buffet lunch at the Brunswick. The following changes of address have been

received:—Andrew H. Green, Roseau, Dominica, West Indies.—Harry D. Barto, 109 Wendell Avenue, Pittsfield, Mass.—Charles K. Cummings, 144 Congress Street, Boston.—Francis M. Miller, 700 Wood Street, Wilksburg, Pa.—A. F. Ruckgaber, care of Merrill, Ruckgaber, Fraser Company, 50 Church Street, New York City.—Paul W. Litchfield, 580 Crosby Street, Akron, Ohio.—M. L. Fuller has severed active connection with the United States Geological Survey, where for several years he acted as chief of the section dealing with artesian water investigations in the Eastern United States, and has removed to Brockton, Mass., to take up the business of growing cranberries. The Fuller-Hammond Company, of which Mr. Fuller is a leading member, is the third largest cranberry corporation in the world, owning several hundred acres of bearing bog of the highest grade on Cape Cod. Mr. Fuller still retains his appointment on the Geological Survey, and has an allotment for scientific work on Long Island, N.Y.

1897.

JOHN ARTHUR COLLINS, *Sec.*, 67 Thorndyke St., Lawrence, Mass.

Ninety-seven was not largely represented at the Commencement celebrations this year, but those who did have the courage to appear seemed to enjoy themselves. The secretary held forth at a punch-bowl in the Hotel Brunswick, Tuesday afternoon, and, sad to relate, the men who came around could be counted on the fingers of one hand. If it had not been for the kindly assistance of '98, the contents of the bowl would surely have overflowed as the ice melted. The fellows who appeared were Cowles, Carter, George Fuller, Learned, and Worcester. After a very satisfactory lunch the '97 contingent marched to Symphony Hall, where it was joined by Carty and Loveland.—Henry E. Worcester, who was at the alumni reception and Pops for the first time since leaving the Institute, is now with the Revere Sugar Refinery, East Cambridge, Mass.—Lieutenant William A. Kent, of the Twenty-second United States Infantry, had planned to be at Commencement, having arrived from Cuba on

May 12; but a government order compelled him to leave on June 11 for Fort Liscum, Alaska, where he is now stationed. Thus it is that the unfortunate fellows who are scattered all over the country and can't attend any of the class reunions are the ones who are longing to do so, while the men in and around Boston, who can come, will not go to the trouble.—Frederick A. Hunnewell was married on June 23 to Miss Sarah Louise Swan, of Stratford, Conn.—Several of the men spoke to the secretary in relation to the dinner to be held at the grand reunion next year. Each one was in favor of having the ladies present, as in 1907, when all agreed that we had a very enjoyable time. Also that it be held not on the Pop Concert night, when all have to hurry away to Symphony Hall, but, say, on Monday evening, when we can dine at our leisure and enjoy a social hour or two afterwards. If any of the men have any ideas on this matter, the secretary would be glad to learn of them.—Benjamin A. Howes (VI.) was married on August 5 to Miss Ethel Dench Puffer, of Framingham, Mass.—William S. Rhodes (XII.), formerly located at Fort Sam Houston, Tex., in the Quartermaster's Department-at-large, U.S.A., is now stationed at Fort Hancock, N.J.—James T. Baker (V.) is with Carson Pirie, Scott & Co., Chicago, Ill.—Charles B. Clark is a member of the firm of C. B. Clark & Co., Baltimore, Md.—Frank E. Mansfield is with the Empire Consolidated Gold Mining Company at Groom Creek, Ariz.—F. H. Watts (I.) is now engineer, Maintenance of Way, Logansport Division, Pennsylvania Lines, Logansport, Ind.—The engagement is announced of Miss Alice May Hoitt and John Hastings Howland (I.).

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston.

Corse has resigned his position with the Detroit Lubricator Works, and on November 1 will become assistant manager of the Michigan Smelting and Refining Company of Detroit.—The following appeared in a recent number of the *Street Railway Journal*:—

Mr. C. A. Smith, who on February 1 was appointed superintendent of roadways of the Georgia Railway & Electric Company of Atlanta, Ga., has been connected with electric railway construction work since he was graduated from Boston Tech in 1899. Mr. Smith came to Atlanta in the fall of 1899 as assistant engineer on the Atlanta Rapid Transit Company's construction, and later was superintendent of construction and assistant engineer in charge of construction work in Birmingham and Memphis. He returned to Atlanta Jan. 1, 1906, and was connected with this company as engineer in the roadway department until his appointment, as before stated, as superintendent of roadways on February 1.

—Fowle is the proud father of a son born May 28. The young man's name is Frank F. Fowle, Jr., and it is to be hoped that he will follow in the footsteps of his worthy father.—The following clipping appeared in a recent number of the *New England Automobile Journal*:—

Realizing the advantages of the automobile over the horse-drawn vehicle, Cambridge, Mass., has decided to purchase City Electrician Timothy C. O'Hearn a motor car to be used in the performance of his duties. Mr. O'Hearn finds the horse and carriage formerly used inadequate to meet the demands of the office, and, as time is of great value in protecting the city, the automobile will be of great service.

—The following changes of address have been noted:—John W. Woollett, 33 State Street, Albany, N.Y.—Harry G. Johnson, 7 Forrest Street, Cambridge, Mass.

1900.

H. E. OSGOOD, Room F, Chamber of Commerce, Boston, Mass.

The secretary is in receipt of but a small amount of interesting information from the members of the class, and some of that which has been received is to be sincerely regretted. The death of Francis X. McGowan has come to the knowledge of the secretary from a communication received from his father. To those of us who were personally acquainted with Mr. McGowan the loss will be keenly

felt, as we knew him as a good friend, congenial and straightforward. His passing is a loss to the Institute and to 1900, as he was a worthy representative of Technology. He was riding on a locomotive with the engineer, who was an old friend. The accident happened in Lawrence, Friday, September 4, on the Boston & Maine Railroad. Through some undetermined cause two freight trains collided, Francis being pinned under the tender with the fireman. He was hurried to the hospital, and everything possible done for him, but he was too seriously injured, and expired at 5.45 P.M., two and one-half hours after the accident. The funeral was from his late home, 14 Berkeley Street, Lawrence. The secretary extends the condolences of the class to his bereaved parents.—As the vacation period is now over and we are returning to our various lines of duty, we presume Mr. H. O. Keay, heretofore assistant professor of mechanical engineering at McGill University, Montreal, will take up his duties as professor of transportation, to which he has been elevated. We wish him well.—Thomas D. Perry has sent cards announcing the birth of a daughter, Frances Goodenough, born July 29. Having heard nothing further, it is to be presumed that the little one is doing nicely.

1901.

R. L. WILLIAMS, *Sec.*, 30 Waban Hill Road, Chestnut Hill, Mass.

The flight of time is emphasized by the rapidity with which the time comes around to write these reports. It seems to the secretary as if he had no sooner gotten one off than it is necessary to grind out another. However, if the boys will let him know what they are doing, he is only too glad to send it to the REVIEW. L. S. Butler during the past year has studied at École des Beaux-Arts, Paris.—Since graduation C. F. Willard has studied law, been admitted to the Massachusetts bar, and at present is an assistant examiner in the United States Patent Office in Washington.—Norman L. Skene is consulting engineer for A. S. Morss Company, on marine problems in connection with power boats. He has

written three books on technical subjects.—Robert White, Jr., is president of the United States Ozocerite Company, with office in Chicago. He has travelled all over this country and made two trips to Europe.—Austin T. Hyde writes he is assistant superintendent of the Fort Hill Chemical Company at Rumford Falls, Me.—Carl F. Johnson, general inspector of the Johnson Service Company of Milwaukee, informs me that he has travelled in British Columbia, climbed mountains, and fallen into a crevasse in a glacier. He resided in California one year, and was in San Francisco during the earthquake. He says, "I lost everything but life and clothes, was given up for dead, and some people still think I am dead." He has been through forty States, Canada, and Mexico.—Arthur C. Davis has two children, A. Colby Davis, Jr., born Aug. 5, 1903, and Dorothy C. Davis, born Sept. 14, 1905.—S. L. Wonson is an assistant engineer for the Mexican Railroad on bridge construction.—Frank D. Rash is married, and has one child, Dillman A. Rash, born July 21, 1907. Rash is general manager of the St. Bernard Mining Company.—Ellis F. Lawrence, besides his regular work as an architect in Portland, Ore., has been running a forty-acre ranch at Dead River, raising apples. In a recent letter he writes that '01 has been holding a miniature reunion in Portland, as Henry Marcus, Frank Baxter, and himself have been talking over old times and comparing notes. Marcus made good in Goldfield in the early days, and is now representing the American Chico Company. Baxter is on his way to Alaska.—Lawrence announces the birth of his second son, Denison Lawrence, on the 1st of July, 1908. He says he is almost as large as his first child, and is a typical son of Oregon.—Charles I. Auer is a mining engineer at Durango, Mex. He is married, and has one child.—Allan W. Rowe lectures on chemistry at the Boston University School of Medicine, and in addition is engaged in private research work at Harvard, by courtesy of the Fellows of the University.—E. J. Proulx is a constructing engineer, and specializes on the construction of dams, reservoirs, pumping stations, and pipe lines. He is located at Philadelphia.—L. P. Wood is assistant designing engineer for the Board of Water Supply of the City of New York. He

is to be congratulated on the arrival of a son, June 25, 1908.—J. R. Putnam is an inspector for the Factory Mutual Fire Insurance Company. He is married, and has one child.—I had the pleasure of meeting Philip Moore on the street a few days ago. He was looking prosperous, and said he was located in Chicago. He thought it would be a good idea if the class elections were conducted by mail instead of at our annual meeting, so as to give all the fellows a chance to vote. I should be glad to hear what the class thinks of the proposition.—The following changes in address have been received. W. I. Aldrich, 101 Benevolent Street, Providence, R.I.—W. I. Martin, 5212 South Park Avenue, Chicago, Ill.—E. P. Burdick, 1011 Hibernia Bank Building, New Orleans, La.—William M. Vermilye, 58 Adams Street, Quincy, Mass.

1902.

F. H. HUNTER, *Sec.*, 75 Park Street, West Roxbury, Mass.

Several classmates have made a change of base during the past summer. Ross Bates left Boston for New York early in the summer, and is now at 29 Broadway (with Wanhàm & Magor, as in Boston), and resides at 770 St. Nicholas Avenue.—Chauncey Manning is located with Monks & Johnson, mechanical engineers, at 20 Central Street, Boston.—Dick Reed has shifted location, as the *American Telephone Journal*, of which he was editor, has been combined with *Telephony* of Chicago, and Reed becomes editor of the united publication. His office is 342 Monadnock Building, Chicago.—Blodgett is again with the McGraw Publishing Company at 239 West 39th Street, New York City.—R. S. Williams has been elected secretary of the Technology Club, Boston.—Mendenhall has returned from Ely, Nev., to Salt Lake City, and is again with the Utah Light and Railway Company of the latter place.—As usual at this time of the year there are weddings to report. Everett married Miss Alice de Silva, of Wellesley Hills, on the 16th of September.—George Ross's wedding is set for October 1, the bride being Miss Annie Gertrude Budge, of Montreal.—The engage-

ment of Robert Pope to Miss Laura Fischer, of New York, has recently been announced.—C. H. Boardman, Jr., is engaged to Miss Edith Davis of Lynn.—Millar is removing to Chicago to take a position as sales engineer with the Studebaker Brothers Manufacturing Company of 378 Wabash Avenue.—Galaher has left Stone & Webster, and his present address is 892 Essex Street, Lawrence, Mass.—Wright is at Pine Beach, Va., with the United States Geological Survey.—George D. Rogers, who was labelled as "Address unknown" in the recent Class Record, has been located with the New England Telephone and Telegraph Company, 164 High Street, Boston, in the traffic department.—Some new members of the class have been reported. Philip Hilaire Bourneuf was born on January 8 of this year.—Richard Channing Clapp came to the home of A. C. Clapp on June 19.—Dana Maclean Greeley arrived on July 5.

1903.

FREDERICK A. OLMSTED, *Sec.*, 93 Broad Street, Boston.

MacIntosh writes from Milwaukee that he has been on a six-months' trip to the Argentine on business, returning in May. He says in his letter:—

In connection with this trip you will probably be interested to hear that I met R. Lage, of our class, on the boat at Southampton, and made the trip as far as Rio de Janeiro in his company, and he made it very pleasant for all of our party. I saw him again in Rio on my way back, when he came out to meet me, and placed a launch at my disposal for the day. His father, with whom he is, is a very big man in Rio, having a ship repair plant, which is most modern and up to date. Lage came back to this country shortly after I saw him, and married a girl from Philadelphia.

There are four members of our class here in Milwaukee,—P. R. Parker and Wehner with the Bucyrus Company, and F. Taylor with the Cutler Hammer Company and myself. I see Parker and Wehner very often, as we all belong to the University Club, but Taylor I see very seldom. We now have under way a Tech organization here, which we hope to have going soon with about fifteen members.

I often see Cheney, in Chicago, who is with his father. He was president of our Northwestern Alumni Association last year. He is married: the rest of us are not.

—R. B. Williams is now with the Miami Copper Company. His address is P. O. Box 349, Globe, Ariz.—Pelton has announced his engagement to Miss Augusta L. Vibberts, of New Britain, Conn.—W. H. Adams has accepted a position as professor of mechanical engineering at the Imperial Pei Yang University, Tientsin, China. He left during the latter part of July. Mail may be addressed to him at 22 Dix Street, Winchester, Mass.—Olmsted was married, April 29, to Miss Harriet A. Craft, of Roxbury, Mass.—Swett has been spending the summer in Europe. He will probably have something to tell of his trip for the next issue of the REVIEW.—Fales took a yachting cruise up the coast of Maine this summer. He sailed in the yawl "Eleanor," under the pennant of the Cottage Park Yacht Club.—Tuel is at present with Stone & Webster in Boston, but does not know how long he will be in town.—Question blanks will soon be sent out by the secretary for information for the five-year Record Book to be published this winter. It is hoped that all members of the class will respond promptly, and write as fully as possible about themselves and their work. We hope to make this book a great success. News from any of the fellows is wanted at all times by the secretary. It is especially desirable that any members visiting Boston or living in this vicinity keep us advised of their whereabouts.—The following new addresses have been noted:—Chester S. Aldrich, 380 Park Street, Dorchester, Mass.—Frank S. Bradley, 157 Central Avenue, Dover, N.H.—R. M. Field, 1300 Harvard Street, N.W., Washington, D.C.—Floyd T. Taylor, care of Cutler Hammer Manufacturing Company, 50 Church Street, New York, N.Y.—John M. Grice, Mexico Mines of El Oro, El Oro, Estado Mexico, Mex.—Louis W. Adams, 6630 Kimbark Avenue, Chicago, Ill.—Miss Laura S. Plummer, Green Hall, University of Chicago, Chicago, Ill.—J. S. Sheafe, 245 East 61st Street, Chicago, Ill.—P. M. Lawton, 212 West 44th Street, New York City.

1904.

R. A. WENTWORTH, *Sec.*, Saylesville, R.I.M. L. EMERSON, *Res. Sec.*, 161 Devonshire Street, Boston, Mass.

The proposed outing and baseball game on Peddock's Island, Boston Harbor, was indefinitely postponed, as there were scarcely enough '04 men living near Boston this summer to have a successful game of "three old cat."—In addition to his two weeks' vacation from the factory your secretary has taken a three months' vacation from class work. Letters from some of the faithful reveal the following items of news. "Buck" Edes left the Reclamation Service nearly a year ago, and is now with the North-western Pacific Railroad at Eureka, Cal.—Mr. and Mrs. George Edward Corbitt announce the marriage of their daughter, Charlotte McLeod Wallace, to Mr. John Whitman Shaw on September 5, at Annapolis Royal, N.S. Mr. and Mrs. Shaw are to live in Cobalt, Ontario, where Shaw has been working for some time.—Stetson was married on June 12 at Warren, Pa., to Miss Hilda Caroline Anundsson. His address is now 806 Franklin Avenue, Wilkinsburg, Pa.—Mr. and Mrs. Edward Scott Randall, of Medford, Mass., announce the engagement of their daughter, Bernice Mildred, to George Edwin Atkins, of San Francisco, formerly of Newton.—George W. Francis writes in part: "While not a graduate of dear 'Old Tech,' I feel highly honored to class myself as a former student of Tech and above all, the class of '04. I continued my studies at my state college, 'Old Delaware,' and received my sheepskin from there." He was in Binghamton, N.Y. (126 Chenango Street), in charge of the construction of a reinforced concrete building during the summer. His permanent address for mail is 1020 Munroe Street, Wilmington, Del.—R. E. Havens is at Fulton, N.Y., as assistant superintendent with the Fulton Contracting Company, which has a section of the barge canal.—Turgeon writes from Camp Punta Gorda, north coast Cuba, thus:—

Have been in Cuba more than a year now, most of the time near Santiago in the mines described by Richard Harding Davis in "Soldiers of Fortune."

For the last three months have been on the north coast, prospecting some iron ore properties. Am forty miles from the nearest town, Baracoa, settled by Columbus, and not changed any since. Fifty miles to the nearest railroad. Have two camps and some forty men, 'most all negroes, who are descendants of the original Indian tribes about here. For two months not a white man came near my camps, and I cannot speak English without an effort. Chief diversions are hunting shells and turtles on the reefs, shooting crocodiles and boa-constrictors on the rivers, and attending native "bailles." Was engaged last February to Miss Marguerite Newhall, of North Andover, Mass. With best wishes to all my classmates.

—Harry Rollins has a son, Henry Martyn Rollins, born June 23.—Lounsbury was married on June 30 at Superior, Wis., to Miss Genevieve Mae Eaton, daughter of Mr. and Mrs. Alfred S. Eaton.—Bernie Blum was to have been married in August, but I cannot swear that the event occurred as planned.—The fact has just reached me that Sheafe was married in October, 1907, to Miss Irene G. Russell at Still River, Harvard, Mass. They are living in Newcomerstown, Ohio.—William B. Murray is at Valhalla, N.J., with the New York Board of Water Supply.—Al Ferry has gone into business in Fitchburg, Mass., as a contractor on electrical work.—Holcombe spent a part of his vacation at Wiano, Mass., with Charley Haynes.—Lang has deserted his tunnel job at Detroit for the Detroit plant of the Solvay Process Company. He is on the engineering staff, and expects to participate in a proposed enlargement of the plant. Lang is on the governing board of a newly formed alumni association of Tech men near Detroit.—New addresses are: A. H. B. Arnold, Elks Club, Joplin, Mo.—Moses Brown, Jr., care Cole & McDonald, Box 719, Sault Ste. Marie, Ont.—N. C. W. Chapman, 1123 Terpsichore Street, New Orleans, La.—L. C. Clarke, Jr., 382 Ontario Street, Chicago, Ill.—Edw. R. Crane, 2102 East Madison Street, Seattle, Wash.—Harry H. Groves, Room 372, South Station, Boston, Mass.—J. Lawrence Lyon, 136-138 Liberty Street, New York, N.Y.—J. Crawford Nyce, Loomis, Cal.

The Technology Review

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

The 1905 notes for the July number of the REVIEW were issued separately, owing to the secretary's failure to get them in in time to be printed. A copy was sent to each '05 subscriber. Any one who did not receive a copy or who desires another will be sent one on request.

A large part of the news for the three months just ended is of the copper-plate variety. Walter Bent's announcement was received just after the last notes had been sent out. He married Miss Bessie Brockett, of Rochester, on June 8.—Edward C. Smith and Miss Edna Grace Fowler were married on August 15 at Fremont, Ohio. They will be at home after October 1, at 1129 Birchard Avenue, Fremont, Ohio.—Henry L. Jackson married Miss Bertha Davette Taggart, of Boston, on August 19, and will be at home at 1200 Ohio Street, Lawrence, Kan.—George Bayard Jones and Miss Lucile Hinsdale Stone were married on September 16 at Plymouth, N.H. Their address is The Decatur, Decatur and Florida Avenues, Washington, D.C.—George C. Thomas married Miss Marie Josephine Honer, of Hartford, Conn., on August 22, and will reside after October 15 at 700 Noble Avenue, Bridgeport, Conn.—Charles W. Hawkes and Miss Pancha Louise Clark were married on September 17 at Braintree, Mass. The Institute was well represented at this wedding, Albert Prescott being best man, Clark and Casson, '06, Marcy, '05, and Lord, '09, ushers. Charlie will live at 81 Brook Street, Pawtucket, R.I., where he is mechanical engineer with Howard & Bullough American Machine Company, Limited.—A. C. Gilbert (V. '05) and Miss Florence Vail Walker, of Cambridge, were married September 1 at the home of the bride. They will live at 254 Arlington Street, West Medford. Gilbert has been with the Merrimac Chemical Company for about two years and a half at their plant in North Woburn. Thus ends the list of wedding announcements for this number of the REVIEW. They not only are of great personal interest, but also show that the fellows are

beginning to settle down. Best wishes and congratulations from the class to them and theirs.

Several additions have been made to 1905's representation in Boston. Kenway and Guibord both resigned their positions as examiners in the Patent Office at Washington, to take positions with the patent department of the United Shoe Machinery Company, 205 Lincoln Street, Boston.—Bob Farrington is with the same company, having completed two years at the Harvard Law School.—Doc Lewis is back at the Institute in the Industrial Chemical Laboratory, having grown into his title at last, which is, being expanded to its limit, Doctor of Philosophy, *summa cum laude*, Breslau, July, 1908. He speaks well of German life in general, but relates several amusing incidents that would seem strange in this country. At one time he was nearly arrested for attempting to extract his pocket handkerchief while riding a wheel, it being against the law to operate a bicycle with less than two hands on the handle-bar. It was also provoking to climb a long hill, anticipating a coast on the other side, and find at the top a sign saying, "Bicycle riding down this hill forbidden." Not for fear you would run into some one, but in the careful solicitude of a paternal government that you take no risks for yourself. But this oversight and protective care entails what would seem to us a cumbrous system, which sometimes admits of petty graft. An instance of this is shown in a letter Doc wrote after taking a trip with Ralph Gifford, who is still studying at Leipzig:—

Gifford and I got together at Christmas in Breslau, and after ten days of the cloudy, drippy weather one learns to expect during the Silesian winter, we started off for a short trip southward, along the western slopes of the Carpathians, to Budapest and Vienna. *En route* an experience with the Hungarian conductor may be of interest. I had a round-trip ticket, which makes everything easy on German roads, but Gifford, bound back to Leipzig, did not. He was, however, entitled to one stop-over, which we made at Poprad-Felka, up among the high Carpathians. Now, when we got off at Poprad, we were expected to take that ticket to the station-master to be stamped; but, as that official let us through the gate, and in answer to our inquiries assured us that it was, "All right, all right," we let it go at

that. But the conductor next day shook his head, and said it was no good, and, when asked what we should do about it, said, "That is a very difficult question," and went off to think about it, returning at intervals to remind us of its difficulty, and being profoundly at a loss as to how to solve it. Finally, he returned, with an idea, "Maybe, perhaps, I might find along the road a station-master, a friend of mine, who would countersign this ticket." The "grease" being supplied at this point, he took the ticket, and returned with it in half an hour, signed at a station we had passed shortly after the incident was opened. After a week of this, Gifford, pacing his room in Vienna and rubbing hard at the back of his head, remarked, "If ever I get back to Boston, the next travelling I do shall be in a civilized country, otherwise known as U.S.A." Back at the 'Stute, Doc says, "Certainly no more pleasant a professor, and probably no more agreeable, helpful laboratory atmosphere could one find than I had in Breslau, but, all the same, Tech for me."

—The secretary happened to meet Dick Marsh, who returned to this country on the "Cymric" early in September. After his Sophomore year Marsh was sick, and spent the remainder of the year in an engineering camp in the West. He returned to take his third year with '06, but the death of his parents caused him to miss his final exams, so he could not enter the fourth year at the Institute. He then went to the University of Lausanne in Geneva, where he specialized for a year in hydraulics and French. Finishing there, he started out around the world, travelling awhile, then working awhile. He thus found an interesting fact, that in almost any "new" country he could locate a pretty good engineering job within a few days. He worked for J. G. White Company for a while in the Philippines, and is now with Speyer & Co. of New York, who build and operate railroads in almost all parts of the world. In this way he has about earned the title of champion globe-trotter of the Class, having been in Bolivia, South Africa, Morocco, and now returning from China to find his next assignment.—A letter was received from William Seward Mann, who is general manager of the mine "El Placer," Tlacolula, Oaxaca, Mexico. During the latter part of 1905 he designed a 200-ton mill for a mining company in Costa Rica, Central America, and on leaving Tech went down

there to build it. The mill consisted of 2 gyratory crushers, 40 stamps, plate amalgamation, traps, dewatering boxes, 2 tube mills, shaking amalgamating plates, concentrators, 2 sets of classifiers, cyanide sand plant and slime plant. The power was furnished by water brought a mile by ditch and 2,000 feet by pipe, under a head of 588 feet. In running the survey, the line was cleared through a dense tropical forest by six men armed with machetes, and the machete declared far ahead of the hatchet for survey work, as well as for dealing with poisonous snakes. Owing to the dense woods and to the character of the course, which was on the bank of a deep cañon, where at times it was necessary to hang on by one's teeth, measuring by tape was out of the question, and all stakes were set by stadia. In April, 1907, Mann resigned his position with the Costa Rican company, to take his present position above stated, which is with one of the minés of the Boston & Oaxaca Mining Company.—Fred Goldthwaite has been spending the summer at Harrison, Me. His health broke down last winter, and he had a hard time pulling together, but struck a good convalescing job as assistant director of Camp Wildmere, where he could enjoy outdoor life generally and overseeing seventy-five boys in particular, and now looks brown and healthy and is looking for a job.

Attention is called to the Visitors' Register at the Technology Club. This has been instituted at the Club to facilitate locating friends in the vicinity, when visiting Boston, and is kept in the form of a book at the Club, 83 Newbury Street, and is always open for all past students, whether members of the Club or not. This feature can be made of much use and profit if the fellows will notify the secretary, before making a visit to the Hub, as to when they will come, how long they will be here, and how they may be reached. This will be posted near the register, and help to let your friends know you are coming, and enable them to plan to see you while you are in town. Drop in at the Club, and you are pretty apt to see some one you know, or else register, and give your friends a chance to know you are here.

Get out your Portfolio, look it over (once started, you are good for an hour), pick out your intimate friends, and make a note to write

them to meet you in June, 1909. Then study the other pictures, so you can call any '05 man by name when you meet him at the greatest reunion ever. Then look to it again that you are put down in the vacation schedule for June, 1909.

1906.

GEO. F. HOBSON, *Acting Sec.*, 164 Holyrood Ave., Lowell, Mass.

I. *On the Part of the Secretary.*

Class activities have not been very great during these past three months, owing to the fact that so many of the fellows have been out of town on their vacations. However, many things have happened that concern the class vitally. The retiring secretary, Mr. Heywood, has turned over all the class property to the acting secretary, and he has also submitted a financial report, which may be briefly summarized as follows:—

Receipts.

Received from H. C. Henrici	\$45.66
First annual reunion	13.74
Class dues (does not include contribution prior to 1907)	109.20
	<hr/>
	\$168.60

Expenditures.

Current expenses ('06-'07)	\$37.94
Midwinter dinner ('08)	24.25
Current expenses ('07-'08)	47.15
Second annual reunion ('08)	40.15
Catalogues for class correspondents	17.00
Balance paid to G. F. Hobson, secretary	2.11
	<hr/>
	\$168.60

The Permanent Class Fund is \$275.

As can be seen by the above statement, the acting secretary has only \$2.11 to carry on all the current expenses of the class. This is absurdly low, and every one is urged to keep his class dues paid

up, in order that the work of the class may not be hampered by lack of funds. Moreover, we wish to have a surplus each year to add to the Permanent Fund, in order that later the interest from this fund may pay the running expenses of the class.

II. *Personal Announcements and Notes.*

The secretary takes great pleasure in recording the following announcements. Professor and Mrs. A. R. Crandall announce the marriage of their daughter, Ellen, to Mr. Mark H. Place, Wednesday, July 1, 1908, Milton, Wis.—Mr. and Mrs. E. H. Corrie announce the marriage of their daughter, Emily Elizabeth, to Mr. H. A. Kingsbury, on Saturday, Aug. 1, 1908, Westfield, Mass. At home, The Hanover, Meridian Street, Washington, D. C.—Mr. and Mrs. W. H. Moore announce the marriage of their daughter, Eva Lizzie, to Mr. Wier Louis Rowell, Thursday, Sept. 3, 1908, Advent Christian Church, Lynn, Mass.—Mr. Albert E. Clark announces the marriage of his daughter, Pancha Louise, to Mr. Charles Whitney Hawkes, Thursday, Sept. 17, 1908, at All Souls' Church, Braintree, Mass.—Allyn C. Taylor (II.) was married, June 16, 1908, to Miss Florence E. Welten, of Lawrence, Mass.—David C. Davis (VI.) was married Sept. 5, 1908, to Miss Margaret C. Laing, Quincy, Mass.—Clarence B. Powell (VI.) became the proud father of a baby girl in July.—Ralph R. Patch (XI.) also is the father of a baby daughter.—On the other hand, Raymond J. Barber (III.) was blessed with a baby son in August. (Since the father is a Barber, we suppose the son must be a little shaver! Any objections to the above pun should be mailed to the secretary, who will promptly pigeon-hole them.)

III. *Class News and Letters.*

Our correspondent from Philadelphia, Mr. Tillson, writes: C. B. Powell (VI.) has left Philadelphia, and is now with the Johnston & Lorimer Company, Wichita, Kan.—William J. Walsh (X.) is now with the Fayette R. Plumb Tool Company, Frankford, Pa.—

Ralph N. Sargent is with Pussey & Jones of Wilmington, Del.—T. L. Hinckley writes that he is working in the city engineer's department, Altoona, Pa.—E. A. Frank finishes his apprenticeship with the Allis-Chalmers Company, and may go to Germany to take up advanced engineering.—Willis Ranney is still with the C. S. W. at Red Wing.—Herbert Whiting writes that he is spending his vacation at Sebec Lake, Maine. He says, "It is all fishing here, but the fish are not biting very well at present." We wonder what kind of bait he is using in that prohibition State.—Polhemus sends in word that he is back again in Carthage, Mo., with the American Zinc Lead and Smelting Company. We have been given to understand that he is in charge of the underground work, filling the position of mine "super."—Harold Lord writes from Hawaii as follows:—

I was going down the street last Monday [Aug. 26, 1908] when I saw a face across the street that made me bawl out "Mears," but got no answer. However, at once I looked up the passenger list of the "Clive," and saw Henry S. Mears, Manila. On my way down to the wharf I ran across him getting back to his floating home. "Bill" Furer had just come in from Pearl Harbor (where he is working on the borings for the dredging work), so I picked him up and we had a reunion *à trois* '06. Mears is on his way to do a bit of prospecting, and says he may take three months or three years [etc.].

And last, but not by any means least, the secretary got a short note from "Wee" Williams, whose letter is given below:—

I've been in from the Black Hills now for nearly a month, part of my time having been spent around town here [Boston] and the rest at camp in the Belgrade Lakes, Maine. It seems good to be back here again, as it is two years since I've had a look at Beantown, and I'm beginning to feel like a stranger. I wish I could get in touch with some of the fellows, but, unfortunately, I have to return to the Mogul Mining Company, Pluma, So. Dak., by the 5th of September.

The secretary sincerely hopes that more of the fellows will write him short notes similar to those printed above.

1907.

ALEXANDER MACOMBER, *Sec.*, Fern, Shasta County, Cal.BRYANT NICHOLS, *Res. Sec.*, 138 Fremont Avenue, Everett, Mass.

I. *On the Part of the Secretaries.*

The problem of maintaining alumni interest and of keeping in touch with the sons of '07 has filled the spare moments of the secretaries this past year. Experience in our own case (and it is typical of all classes) has shown that for the first few years after graduation the changes in business and location are rather frequent, and consequently it becomes difficult to keep in close and accurate touch with the boys. It has therefore been decided to adopt a local correspondence scheme. By this plan, territory is divided into groups, geographically chosen, and a local correspondent selected. Each correspondent is to follow up the fellows in his district as far as possible, report to the secretaries for publication any news of interest, endeavor to see that the fellows join local Tech organizations, and, if practicable, engineer a few dinners and gatherings of '07 men during the year.

The various divisions, with their correspondents, are as follows:—

New England District . . .	Bryant Nichols, 138 Fremont Avenue, Everett, Mass. Charles E. Allen, M. I. T., Boston, Mass. Harold S. Wonson, M. I. T., Boston, Mass.
New York District	Not yet secured.
Pittsburg District	Parker V. Dodge, Box 837, Pittsburg, Pa.
Washington District . . .	George A. Griffin, United States Department of Agriculture, Berlin, Md.
Chicago District	John M. Frank, 3810 Grand Boulevard, Chicago, Ill.
Rocky Mountain District .	John Evans, 1310 South 14th Street, Denver, Col.
Southern District	Otis G. Fales, care of the Gregg Company, Ltd., New Orleans, La.

Pacific Coast District . . . Alexander Macomber, Fern, Shasta County, Cal.

Foreign District Bryant Nichols, 138 Fremont Avenue, Everett, Mass.

The resident secretary will have charge of this correspondent work, and valuable results for class and the alumni office should be obtained. Already letters from a number of the fellows have been received, as will be seen under the heading "Letters," and all seem to think this an excellent plan. It is not the purpose of the secretaries to attempt any elaborate local class organizations. It is thought that any such plan would be cumbersome, and the local Tech alumni associations, which every man should join, will take the place of such organizations. It is rather the idea that the correspondent should be one whom the fellows can drop in on, when they are in his vicinity, to talk over old times and learn the latest news. So every one is urged to give the plan his support, for it will surely help, not only in being a pleasant means of association, but in preserving class spirit and loyalty to "Dear Old M. I. T."

One other matter deserves some attention. The secretary of the Technology Club at Boston has opened at the club-house on Newbury Street a Visitors' Register for all Tech alumni, whether members of the club or not. During the year many alumni visit Boston, and it is very pleasant if they can know of some classmate or Tech friend who also is in Boston, that they may call and see him. It is the purpose of this register to be a sort of "Guide to Tech Friends." If the class secretaries know of any alumni who are coming to Boston, they are expected to send to the Technology Club, on a prepared blank form, the name of the visitor, the date of his arrival in Boston, his residence, his Boston address, and the date of his leaving. This information is posted in the register, and is always at the disposal of any one who calls at the club-house. Any and all '07 men who expect to come to Boston, even for one day only, are urged to write to the resident secretary beforehand, giving the above information, and he will promptly send a blank to the club. Do not fail to call at the club, 83 Newbury Street, when

you come to Boston, and look at the register, see which of your Tech friends are in town, and call on them, if possible. This is an admirable plan, and should help materially in keeping up friendships made in days at Tech.

Notices of activities of any other Tech organizations will be posted on the bulletin at the club-house if you will send the same to the club secretary, R. S. Williams.

II. *Personal Notes and Changes of Address.*

As usual, there are several additions to the "Benedict" list. Emerson H. Packard was married, June 27, to Miss Frances May Owen, of Boston.—George A. Griffin and Miss Ellen Franklin Gifford, of Woods Hole, Mass., were married June 28.—Harold A. Kingsbury and Miss Emily E. Corrie, of Westfield, Mass., were married August 1.—Harold A. Duncan and Miss Agnes Louise Pohl, of Temple, Tex., were married in July. Duncan is at Globe, Ariz., with a copper company, and it was there that he met his bride.

—The following from the *Boston Herald* will be of interest:—

HAVERHILL, MASS., July 8.—Fred Morrill, a graduate of the Massachusetts Institute of Technology, '07, starts to-morrow for China to begin his duties as an instructor at the Imperial University at Tientsin. He will teach Chinese students about railroads and structures in English, there being a corps of nine English instructors at the university.

—Another clipping from the *Boston Record*:—

Clarence D. Howe, a well-known Waltham young man, and a graduate of Tech, where he has been an instructor for the past year, has accepted a position in Dalhousie University, Halifax, N.S. Mr. Howe graduated from Tech with high honors, and is sure to make good in the Canadian university.

We are all sure he will.

—Bryant Nichols will not return to the Institute as assistant, but

has secured an excellent position in the manufacturing end of the Revere Rubber Company at the factory in Chelsea, Mass.

—From a Boston paper, under date of Sept. 2, 1908, is taken the following:—

A home wedding in Dorchester last evening was that of Miss Ethel May McDonald and Howard Root Chase, of Malden, Mass., a structural engineer.

—H. R. Crohurst is at "The Bartol," corner Huntington Avenue and Gainsborough Street, Boston.—R. H. Crosby, 540 Washington Boulevard, Chicago, Ill.—P. V. Dodge, Box 837, Pittsburg, Pa.—Albert E. Greene is employed in the metallurgy department of the Illinois Steel Company. His address is 6028 Jackson Park Avenue, Chicago, Ill.—P. P. Greenwood rooms with Crosby, and his address is as above.—G. A. Griffin's address now is care of United States Department of Agriculture, Berlin, Md.—Bert D. Johnson's address was previously given as 109 Luzerne Avenue, Pittsburg, Pa. It should be at the same street and number, Pittston, Pa.—John Kimball, Crafton, Pa.—W. W. Pagon writes from Hotel Chattolane, Chattolane, Md.—Karl Richards is now at Slab Fork, W. Va.—T. W. Roby, Jr., is with McClintock Marshall Construction Company, Rankin, Pa.—W. D. Robinson, 8 Harrison Street, Stapleton, Staten Island, N.Y.

A few other changes will be noticed under the "Letters."

III. *Letters.*

S. R. Miller writes from Cincinnati:—

I expect to be in the northern part of Ohio and Western Pennsylvania from about the middle of September, selling my firm's commodity; namely, paper. There is an alumni organization here with between forty and fifty eligibles. The main feature of same is a weekly luncheon at one of the numerous cafés,—namely, "The Besmark,"—every Tuesday, at which eight or ten always show up, from the class of '77 to '07. They also have a winter and summer regular meeting, etc. This summer we went to the new Cincinnati Water Works, and especially through the filtration plant,

which is the result of an M. I. T. brain, Elms, who has it in charge. It is the largest filtration plant in the world, not excepting the one in Paris. Meet Fleming, '07, on the street once in a while. He is married, and working for Proctor & Gamble in one of the suburbs, Ivorydale. Shields, '07, stopped off here last week for a few hours on his way east to Lynn, where he is to be with the General Electric Company.

—H. S. Wilkins says he has little to write, but he “continues to enjoy the steel business very well.”

—R. H. Kudlich, from Wilkes-Barre, Pa., writes:—

I have been with the Lehigh & Wilkes-Barre Coal Company as one of the assistants to the chief engineer, looking after the pumps, hoisting engines, and all other inside machinery, including the mule barns.

—J. E. Tresnon writes on the letter-head of the Edison Electric Illuminating Company from Pottsville, Pa.:—

I am enjoying life to the full extent in spite of the above-named company. I went to work for the Westinghouse on Oct. 1, 1907, and they went broke on October 23. I left them on Feb. 3, 1908, and came here. Since being with this company I have received some mighty good work in the electric light business, so that it is perhaps a good thing for me that I left the Westinghouse. I went right into the hard-work end of the business, so that now I can either climb a pole, run an electric light station, or test a meter in a satisfactory manner.

—From Heilwood, Pa., comes the following:—

I am here in this small coal town in the mountains trying the best I know how to keep happy and contented. The only coal I dig is samples for analysis, and I spend most of my time in a small laboratory we have fitted up here.

H. A. FRAME.

—“Stud” Leavell writes:—

I have been in Mexico, and expect now I shall be in the north-west country. I am just (August 24) getting out from a long attack of typhoid fever, during which I lost thirty-five pounds. . . . Remember me to the boys.

His address is care Charles M. Campbell, Temple, Tex.

—From John Kimball we have the following:—

I received a postal from H. C. Libby, . . . saying that he was engaged in topographic surveying in the Connecticut River Valley for the State of Massachusetts. He says the position is only temporary. As to myself, I am still with the Pennsylvania Lines West of Pittsburg, in the office of the chief engineer. Like a good many others, I am not getting very rich on the job, but am thankful to have a position.

—From H. C. McRae we have a few lines:—

No prospects in sight whatever for engagement or marriage, and have no children. Am working for the Baltimore Sewerage Commission as assistant engineer, in charge of the testing plant.

—Under date of September 14, Otis G. Fales writes:—

To-night I leave New Orleans for New York. Next Saturday I sail for Porto Rico. I expect to be gone about three or four months. I have some erecting to do there, and then I shall have charge of the San Juan office at the same time. Probably I shall arrive here, New Orleans, about the first of January. After that I think I shall remain in New Orleans, or at least make it my headquarters, as I am the manager here, and the outlook is pretty good for me. I have not met any of the fellows of our class here. I saw O'Hara, '06, the other day. He is the manager of the Birmingham office of the Sullivan Machinery Company. He stopped me on the street with, "I don't know your name, but you are a Boston Tech man." We spent a very pleasant afternoon together. My San Juan address is care of the Gregg Company, Ltd., San Juan, P.R. Mails leave at 12 M. on Saturdays from New York.

—F. S. Hamilton, ex-'07, writes from Webb City, Mo., on the letter-head of the Producers' Information Bureau:—

I am very glad steps have been taken to get the fellows of '07 together, and shall be glad to do anything necessary to promote a feeling of class loyalty in those whom I may meet. We have lately discovered that there are ten Tech fellows down here in the Joplin district, and we have arranged a dinner for next Tuesday night, September 8. It is to be the first in a brilliant series.

As for myself, I am looking after some producing leases, and am in with

a consulting engineer in the above bureau, chiefly giving reports on the ore market. We are also developing some good leases on our own account, from which we of course expect to make our everlasting pile.

There is no sign of engagement, marriage, or children.

—From V. H. Dickson:—

As I look over the month since June, '07, I am tempted to say, "Checked career." I have done designing and draughting for automobile factory, draughting and computing for mechanical engineer, sold breakfast foods on the road, was foreman of a tin and cornice shop, did irrigation surveying in New Mexico, and for the last ten weeks have been working on a plumbing contract which father has in the South. I think I shall go to Detroit, the home of the motor car, and look for a job.

—The following is taken from a characteristic letter from our "Sunny Jim," Crosby. Evidently, Johnnie Frank is planning a dinner of the Chicago '07 men. Good for John!

It's a good stunt to get the fellows around Chicago together, only please be canny on the price, for the raises in pay are likely to be few, and I don't believe any of the fellows around here are in the \$2,400 per class. I would suggest an *à la carte* affair at a mediocre hotel, say the Grand Pacific. We could get a private room there if a dozen showed up. Then each man could go as steep as his stomach and sheepskin wallet called for. Not that I am authority at all, but I speak for Greenwood and myself and our pocket-books. We have not depended on "pa" for a year now. Well, about myself. I am a student apprentice in the telephone department of the Western Electric Company, and considered by them as the lowest order of student. I am drawing \$65 a month, and see no immediate raise in view. Am lucky to get that. About "marriage, children, or even engagement." Would you consider it on \$65 per? Nay, nay, Pauline! Nevertheless,—well, say, John, you won't be calling on her and offering a bottle of brain food or the like? Honor bright? Now, old chap,—well, say, I've really found her at last, but we are not announcing an engagement because—oh, it's that \$65 per again. Nevertheless, come over to the West Side at 540 Washington Boulevard any Sunday at 2.30 P.M., and I'll show you a pleasant afternoon, and mayhap you may meet her if you can keep the brain food to yourself. So long. Yours in '07,

RALPH "CROS."

—Edward W. Hamill writes:—

I am teaching again this year in the Manual Training Department of the Yeatman High School in St. Louis.

—From W. W. Pagon comes the following:—

In regard to my work, I have held my job so far, and have been very kindly treated, being advanced about as fast as I can stand. So far I have had a smattering of design. My future plans, as I see them now, consist in remaining with the Baltimore Bridge Company. I cannot do better. I am not engaged or married. The grosser details of my life consist in getting up, working, eating, going to bed, with reading and some study.

—George Griffin says:—

I've been in Delaware this summer, making a survey and investigation for Uncle Sam, but expect to spend the winter in Washington. I am coming to Boston the last part of this month on a vacation, and hope to see some of the fellows then.

—Karl Richards, who is with the Virginian Railroad Company, writes in part:—

I have been living in the "sticks" for the last five months, and it certainly seemed good to have a letter from civilization. I have been having a varied career with the Virginian, as far as experience is concerned. When I first went with the company, I went to work on the final estimates in the Norfolk office. Since then I have been on maintenance of way work, instrument man on tunnel construction, time-keeper, and concrete inspector. At present I am on preliminary and location work in the Winding Gulf section of West Virginia. I am level-man of the party and camp draughtsman. I shall probably be here all winter if they start construction. I have had no chance to even think of matrimony, and that of course throws out all chances of children.

—Extracts from letters written to the resident secretary from the secretary follow:—

JULY 6, 1908.

You had better thank your stars you are not in this country now. The heat is terrible,—100 to 110 in the shade. We live in our pajamas, and, if

it were not for the cool nights which bless these mountains, one could not endure it. Down in Redding it is 110 and over, day and night; and every one that can clears out of town. The Fourth of July was a great and glorious occasion here. The whole outfit got drunk and raised the devil. The company did their best to help it along by sending out six dozen bottles of beer and materials for an awful punch. Imagine such doings back East! But they look at things differently here.

SEPT. 5, 1908.

I expect to leave here about October 1 for the South, to be gone a month or more. . . . My whereabouts will be uncertain for a time until I return, though mail will of course be forwarded, and probably lost. Forest fires are engaging our attention now, and we have gangs out protecting the lines day and night. The destruction of property and timber has been fearful. Many fires have been set by these ranchers to put the power company out of business, as we take all the water in the country. Tension runs high, and several shooting scraps have occurred in the next county. They have threatened to blow us up, and have dynamited several ditches. But, if they come down here to the plant, they are liable to get more than they anticipate. So, you see, life is rather strenuous, and not upon the tranquil lines of old Boston.

—Parker Dodge, who is a salesman for the Youngstown Car Manufacturing Company, writes from Chicago:—

I have been away from Pittsburg almost constantly on different trips for three weeks now. . . . I have been in Chicago for several days, and have seen some of the fellows. Had a long talk with Bragdon (X.) over the 'phone. He is at the stock-yards, doing work for Swift or Armour in the chemical line. He is living at his home in Evanston, Ill. Reports all lovely, but no particular news. . . . Had lunch to-day [September 16] with Naramore (IV.) and Reed (IV.) They are getting along finely apparently, and say they like Chicago. (Bad taste!)

Dodge is doing rushing work with the correspondence in his district, and is planning a dinner of the men near Pittsburg soon. —A letter received from Walter Bigelow, dated September 17, will interest many:—

You will be glad to hear that I have found what I consider a fine opening, and have gone in with the J. R. Worcester Company, structural engineers.

... I spent most of the summer at home. ... We had two weeks of Nantucket salt air, which did us good. ... My address for the present will be care J. R. Worcester Company, 79 Milk Street, Boston, Mass.

—William D. Milne is at Rock Bluff, Fla., and a letter received from him at that place follows:—

I am glad of the opportunity of renewing my connection with '07. I graduated from the Institute with the class of '08. On the 18th of June my engagement to Miss Lorna Woodford McLean, of Simsbury, Conn. (Wellesley, '08) was announced. Since July 1, 1908, I have been employed by B. H. Hardaway, of Columbus, Ga., general contractor and engineer. I have been on various works,—dam construction at West Point, Ga., and Langdale, Ala., construction and design of buildings and warehouses, etc., for tobacco plantation in Gadsden County, Florida,—and am at present making a topographic and resource survey of a number of square miles of wild land on the Apalachicola River, Florida.

—Harold D. Reed, ex-'07, writes from Cambridge, Mass.:—

Many thanks for the letter. I shall be pleased to do anything I can to help along the class. Since leaving Tech, I have been working for the telephone company in Boston, as a member of the traffic department. The work is very interesting, and presents some good opportunities. ... While in Fredericton, N.B., this summer, I ran across W. Allan Staples, ex-'07, who is an electrical engineer and contractor, and seems to be doing well. He has one of the finest offices on the chief business street, with a formidable exhibit of X-ray pictures, induction coils, etc. It looked natural to see the shingle of the Electrical Engineering Society hanging on the wall, also a picture of the Rogers Building.

I regret that I was absolutely unable to attend the first reunion dinner of our class, but shall try not to let it happen again.

—Ernest A. Miner from Malden writes:—

I am very glad to hear from 1907. Immediately upon the close of school I obtained work with the Boston Elevated Railway Company in the department of elevated and subway construction. My work has been entirely that of surveying the territory and routes of a proposed Malden extension

of the elevated system. This includes accurate base-line work for the structure and also bench levels. I remain gladly at the call of '07.

—From the Office of the Factories, Boston Rubber Shoe Company, Malden, Mass., we have a letter full of news from Harry Moody:—

I think it is a mighty good scheme to keep in touch with the fellows. As for myself, I am still "doing time" with the Boston Rubber Shoe Company as assistant mechanical engineer, having been with them since July, '07, and have picked up quite a good experience along engineering lines, particularly the practical end of it. I was sorry to have missed the reunion, but I couldn't arrange it so as to get there, as we were doing some special work at the time; but you can bet I shall be there next year if I have to throw up my job to do it. Suppose you know Bill Woodward is in this vicinity again. He is with Forbes Lithograph Company in Revere. Oscar Starkweather is a *father*! What do you know about that! He is in Louisville, Ky., with the sewerage commission. Lamont has gone West again, mining. I haven't heard that you are married yet, but take it from me, old man, there is nothing like it. It's one of the things that you don't know what you have missed until you have tried. . . . Remember me to all the boys.

—Extracts from a long and interesting letter from W. P. Rayner from St. Louis follow:—

. . . Secured employment with the Oscar Lear Automobile Company, makers of the Frayer-Miller automobiles and motor trucks, a month after I left M. I. T., in '07. The first work I had was superintending the preparation of their new factory, to which they were moving, at Springfield, Ohio. . . . In the new location I started in at the bottom, and was given opportunity to school myself in the automobile business in all its branches. Later I was made foreman, in charge of all the erecting of trucks and automobiles, and at different times had charge of engine testing, chassis testing, finishing, etc. I have recently been promoted to the position of traveling representative of the firm, and at present am on a trip through the West, establishing agencies and looking after trade in general.

Rayner's home address, to which mail should be sent, is 712 South Fountain Avenue, Springfield, Ohio.

—Albert S. Kendall, who was with the class in the third and fourth years, in Course IV., writes:—

I had the honor a month since to announce my engagement to Miss Harriet R. Means, of New York City. I am doing my best to earn a living for one, in the hope of some time qualifying for the double-harness class.

—Harry E. Fisher, who was with the class but one year, but who is a loyal supporter of it, sends us a long letter, from which only parts can be taken:—

. . . In September, '04, . . . I entered the shop of the Chandler Machine Company, Ayer, Mass. . . . After a limited experience on machine tools, I was advanced to the draughting department. . . . Late in 1905 I began my office work, and here my first real business education began. The Chandler Planer Company was incorporated . . . with myself as one of the incorporators and clerk of the company, a position which I have held to the present day. . . . I am also treasurer, clerk, and assistant general manager of the Chandler Machine Company. . . . I was recently elected director and clerk of the Leighton Auto Company of Brockton, Mass. . . . I live quietly at home, with the intention of assuming in the near future greater domestic responsibilities.

1908.

JOHN T. TOBIN, *Sec.*, Leesville, Va.

RUDOLPH B. WEILER, *Res. Sec.*, 26 Brooks Street, Brighton, Mass.

I. *On the Part of the Resident Secretary.*

No doubt some of the fellows will be surprised at the above heading, as your resident secretary wrote several letters announcing that Tobin had resigned. In the meantime the resignation had been withdrawn, so that matters now stand as above.

Unfortunately, your resident secretary took up the duties of the office in the middle of the summer, so that he was unable to get hold of the class records (and hasn't got them yet for that matter), as all the fellows were away. Also the official register in preparation by the alumni office was not in readiness in time to be of any

use for this issue of the REVIEW, so that last year's catalogue and the portfolio had to be depended on for the addresses of the fellows, and consequently some letters were returned "unclaimed," owing to insufficient address. The resident secretary will try to write to every graduate member of the class at least, in the next few months, and also promises to answer all letters received, but be patient!—and also use your slide-rule to figure up how many letters must be written. In getting material for this issue, only about sixty letters were sent out, and these to fellows most likely to know about several others. In that way a few "probable" locations and addresses were secured in addition to those published, but it was thought best to wait for more certain information before publishing.

After January 1 all graduate members of the class may become members of the Alumni Association upon payment of the annual assessment of two dollars, which includes subscription to the REVIEW. Those who have already subscribed need pay but one dollar additional. All members of the class who are not graduates are eligible as associate members of the Alumni Association (without the right to hold office). All such candidates please send names to Walter Humphreys, secretary, to be acted on by the committee of the association. The dues, etc., are the same as for graduate members. Bills for dues will be sent out about January 1. Single subscription to the REVIEW, sent to those not members of the Alumni Association, two dollars. To date, only forty-six of the fellows have subscribed. Brace up! The only possible way to keep in touch with the fellows is to take the REVIEW.

It may be of interest to know that the resident secretary has had reported to him, directly or indirectly, only four graduates as not working. Several fellows express themselves as willing to make a change when the chance comes. Though several very interesting letters have been received, we can print only the following one in this issue:—

LEESVILLE, VA., Sept. 10, 1908.

Your humble servant has now been an amateur Southerner for three months. I am down here "in Old Virginia" on a brand-new railroad, the

"Virginian," and am certainly having some great experiences. I ran across one loyal "Tech" man the other day, Anderson, ex-1910. He was time-keeper over a big section gang. I rode with him about five miles on a camp-car, and we sang the "Tech" songs and cheered. You can guess that we enjoyed it. I felt just as enthusiastic as I ever did on Rogers steps. It only brought home more forcibly to my mind the fact that all the fellows that have the chance should join the "Tech" clubs wherever they are, and show that '08 is a real live class. If you are away back in the woods somewhere, subscribe to the REVIEW or the *Tech*, and keep posted on what is happening at the old stand. I have only heard from a small percentage of the fellows as yet, but feel sure that as soon as each man gets settled he will let us all share the glad tidings. Wishing everybody the best of success, I am,

Sincerely yours,

JOHN T. TOBIN,
Secretary of the Class of 1908.

II.

H. V. Spurr is with the Pennsylvania Steel Company at Steelton, Pa.—P. C. Brown is with J. B. Williams & Sons, belt manufacturers, Dover, N.H. On July 8 his engagement to Miss Marguerite L. Williams (Wellesley, '08) was announced.—Al. Place spent the summer in Woburn. He sends his best regards to everybody.—Roger Rice has been an assistant to Professor Robbins in surveying. He will return to the Institute in the fall.—Harry Webb has been busy on thesis. With Harry Putnam and Lynn Loomis he has been in West Milan, N.H., all summer.—"Ted" Barnes is in Syracuse, N.Y.—Joe Sando is with the Allis-Chalmers Company, Milwaukee, Wis., in the pumping engine and hydraulic turbine department.—Howard Luther will return in the fall to assist in the structural department.—Waldo York has spent a very pleasant summer down on the Cape, and will return to the 'Stute in the fall.—"Scout" Douglas was with an engineering firm in Boston the last few months.—L. H. Sutton will return in the fall as assistant in the new turbine option in Course II.—Joe Pope is with the Fore River Ship and Engine Company. His address is 556 Washington Street, Quincy.—E. R. Smith is inspector of construction on the Bedford Water Supply Works.—L. B. Hedge,

after trying a position in an Alabama coal mine, accepted a place with the General Electric Company, incandescent lamp department. Address, 6020 Jefferson Avenue, Chicago, Ill.—B. W. Cary is in the United States Patent Office, Washington, and reports that, among other Tech men there, is Gill, our former instructor in physics.—D. W. Clark is with the Board of Public Works, Andover, Mass., assisting in the installation of a high-pressure water supply.—C. C. Kinsman is with the Metropolitan West Side Elevated Railway Company, Chicago. His permanent address is 1168 Flowinoy Street.—G. Schobinger is with the Chicago Transit Commission, 181 La Salle Street, Chicago.—Ben Bullard is with the Missouri River Power Company, Canyon Ferry, Mont.—Clarence Gaylord is with the Los Angeles Edison Company, Los Angeles, Cal.—Dick Collins is with the Dolphin Jute Mills, Paterson, N. J.—H. W. Blackburn, Harry Lord, W. D. Ford, and Charlie Edmonds are with the G. F. Blake Manufacturing Company, East Cambridge, Mass.—J. M. Talbot is with the S. S. White Dental Manufacturing Company, Prince Bay, Staten Island, N. Y.—I. M. Guilford is with the Winchester Repeating Arms Company, New Haven, Conn.—F. M. Bond is to be with the Stanley Works, New Britain, Conn.—Through the kindness of Professor Locke the resident secretary is enabled to give the following information regarding Course III. men. Bonillas is in Mexico with his father.—Bradford is now making preparations to leave for Alaska.—Chipman is with the Canadian Geological Survey, British Columbia.—Christensen is engaged in mining, Dorchester, Col.—Dickinson is to be assistant to Professor Hofman, and Gibbons is to be assistant to Professor Richards.—N. S. Hammond is assistant superintendent, Great Bras d'Or Mining Company, Goldbrook, N. S.—Heimer is with the Enterprise Mining Company, Cooney, N. M.—Maxwell is with the Copper Queen Company, Bisbee, Ariz.—Penny is with the Pennsylvania Steel Company, Lebanon, Pa.—Ewing is with the Federal Lead Company, Flat River, Mo.—Fanning is with the Henry Woods Testing Plant, Denver, Col.—Frey is engaged in surveying in York, Pa.—Tse and Wen are going to take a post-graduate course at Tech this fall.—S. F. Kedy is with the Minetto Shade

Company, Minetto, N.Y.—H. C. Faxon is to be lecture assistant to Professor Cross.—J. H. Locke and H. S. Eames are also to return as assistants.—Sampson has been with the Cotton Gin Works at East Bridgewater, but intends to return to Tech in the fall for an S.M. degree.—Bowman is with the Commonwealth Edison Company, 139 Adams Street, Chicago, Ill. He says that there are many Tech men in Chicago, among them J. I. Banash, formerly instructor in the testing laboratory.—Jimmie Burch is travelling in Europe.—E. G. Genoud, with H. P. Hollnagel, '06, left September 17 for Germany. Ernie will carry on some special work, and will not try for a Ph.D. He will be located at either Berlin or Bonn.—J. S. Coxe is in San Francisco.—E. F. Lyford will be in New Orleans October 1.—A. T. Hinckley and W. W. Karnan are at the State House, Boston, working on water analysis.—R. G. Wint is at present a chemist at the Watertown Arsenal, but will return in the fall as assistant to Dr. Fay.—R. E. Drake will be private assistant to Dr. Walker.—H. P. Gurney will return to Tech in the fall for special work.—J. McGowan, Jr., is with Simeon C. Keith, Jr., bio-chemical engineer, 15 Ashburton Place, Boston.—H. E. Batsford is engaged in research work with Roessler & Hasslacher Chemical Company, Niagara Falls, N.Y.—A. L. Gardner is assistant superintendent with the same concern at Perth Amboy, N.J.—Leavitt Thurlow is with the Great Western Sugar Company, Brush, Col.—Alfred B. Babcock and William H. Toppan will be assistants in theoretical chemistry.—C. W. Clark will be an assistant in technical analysis, and H. S. Chandler assistant in organic chemistry.—R. C. Folsom is with the American Sugar Refinery Company, South Boston, Mass.—R. E. Schirmer will do mining work at Columbia University.—C. Youngerman and F. B. Schmidt are draughtsmen with Tinker & Cramer, Springfield, Mass.—C. S. Clapp, Maurice Mead, and C. C. Ford are with Peabody & Stearns, Boston.—Ford, Williams, and Dolke, together with R. J. Batchelder, who is now with Coolidge & Carlson, Boston, will return to Tech in the fall.—R. G. Crane is with Parker, Thomas & Rice, Boston.—H. H. Bentley is building a house in Oskaloosa, Ia.—W. J. Pierce is with the B. & R. Rubber Company, North Brookfield, Mass.—

“Ed” Hall is with the Goodyear Rubber Company, Akron, Ohio.—R. B. Weiler will be an assistant in Mechanical Engineering.—Griswold is with the Wabash Railroad, Chicago.—Barton is with New England Telephone and Telegraph Company, Boston.—Langdon Coffin is with the Ivers & Pond Piano Company.—Monroe Ames is with the Boston Elevated Railway Company, Allston, Mass.—Flaherty and Damon are with the Charles River Basin Commission.—“Bill” Adams, J. H. Harwood, and F. A. Cole are with the United States River and Harbor Commission, Boston.—A. E. Bremer is with the Fagin Iron Works, Hoboken, N.J.—Harry Hoole is in Milwaukee, Wis., installing a cost system and piece work in a machine tool plant. He is a representative of the Miller & Franklin Company, production engineers and public accountants, Boston. Harry’s address, 1420 Grand Avenue, Milwaukee.—L. A. Clark is instructor in descriptive geometry and drawing at the University of Michigan.—A. C. Nichols has gone to the Philippines.—Porosky and Everett are to return to the Institute in the fall.—John Tobin’s address, care F. F. Harrington, Bridge Engineer, Virginian Railway Company, Norfolk, Va.—H. S. Osborne returns to the Institute as Saltonstall Fellow.—F. K. Belcher is with the engineering department of the Coffin Valve Company, Neponset, Mass.—Carl A. Hall writes from Berlin, Germany, that he is in a school there where everybody on entering promises not to speak a word of English for a month. His address is care of American Consul.